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CONTENTS

EDITORIALS— Page

The Official Family for 1948-1949 277
The Annual Session of the American Medical Association 279
The House of Delegates of the American Medical Association 280
The American Academy of General Practice 283
Public Relations Manual Is in Demand 284
Plans for the 1949 Annual Session 285

Current Editorial Comment

The U. S. Public Health Service 285

ORIGINAL ARTICLES—

The General Practitioner.
Lowell S. Goin 287
Medical Education: At Odds with Some of Its Traditions.
Roger I. Lee 289
Reduction of Maternal and Infant Morbidity and Mortality through Controlled Nutrition.
Ralph Luikart 295
Serum Proteins in Pregnancy: Effect of Food Rationing and Relation of Serum Protein Level to Edema.
John W. Worsham 299
Antibiotic Drugs, Their Uses and Abuses.
R. Allwyn Cooper 302
Syphilis from the General Practitioner's Standpoint.
Hjalmer W. Sybilrud 308
Rapid Treatment for Syphilis at Rocky Mountain Hospital, Overton, Texas.
D. A. York, Jr. 310
Cardiolipin and Kolmer Antigens in the Complement Fixation Test for Syphilis.
John A. Kolmer and *Elsa R. Lynch* 312
Laboratory Aspects of Certain Tropical Diseases.
Thomas B. Magath 316
Pheochromocytoma: Report of a Case Successfully Treated by Surgery.
Stephen A. Foote, Jr., J. Peyton Barnes, Thomas H. Guthrie, and *Paul V. Ledbetter* 320
Management of Acute Sinus Infection.
J. D. Roberts 324
Medico-Legal Testimony: The Expert Witness.
Furman H. Tyner 326
Ophthalmology and Otolaryngology in the Okinawan Campaign.
Edward D. McKay 330

MISCELLANEOUS—

Coming Meetings and Clinics 333
Medical Examiners Office Moves 334
Siliform Ampuls Contaminated 334
Board of Obstetrics and Gynecology 334
"Everyday Health" on the Radio Series 334
Drugs and Journals Requested 334

Library Notes—

Package Service 335
Motion Picture Film Library 335
Book Reviews 336

News 338

Society News 339

AUXILIARY NOTES—

Auxiliary News 341

Deaths 341

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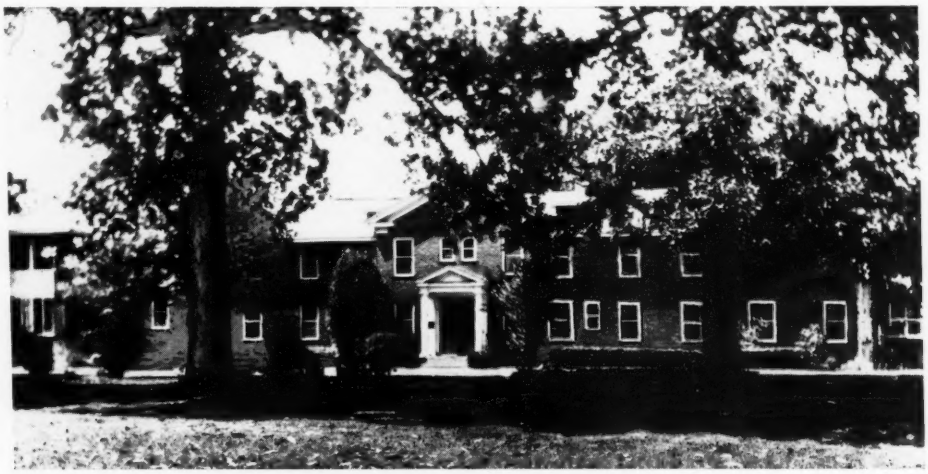

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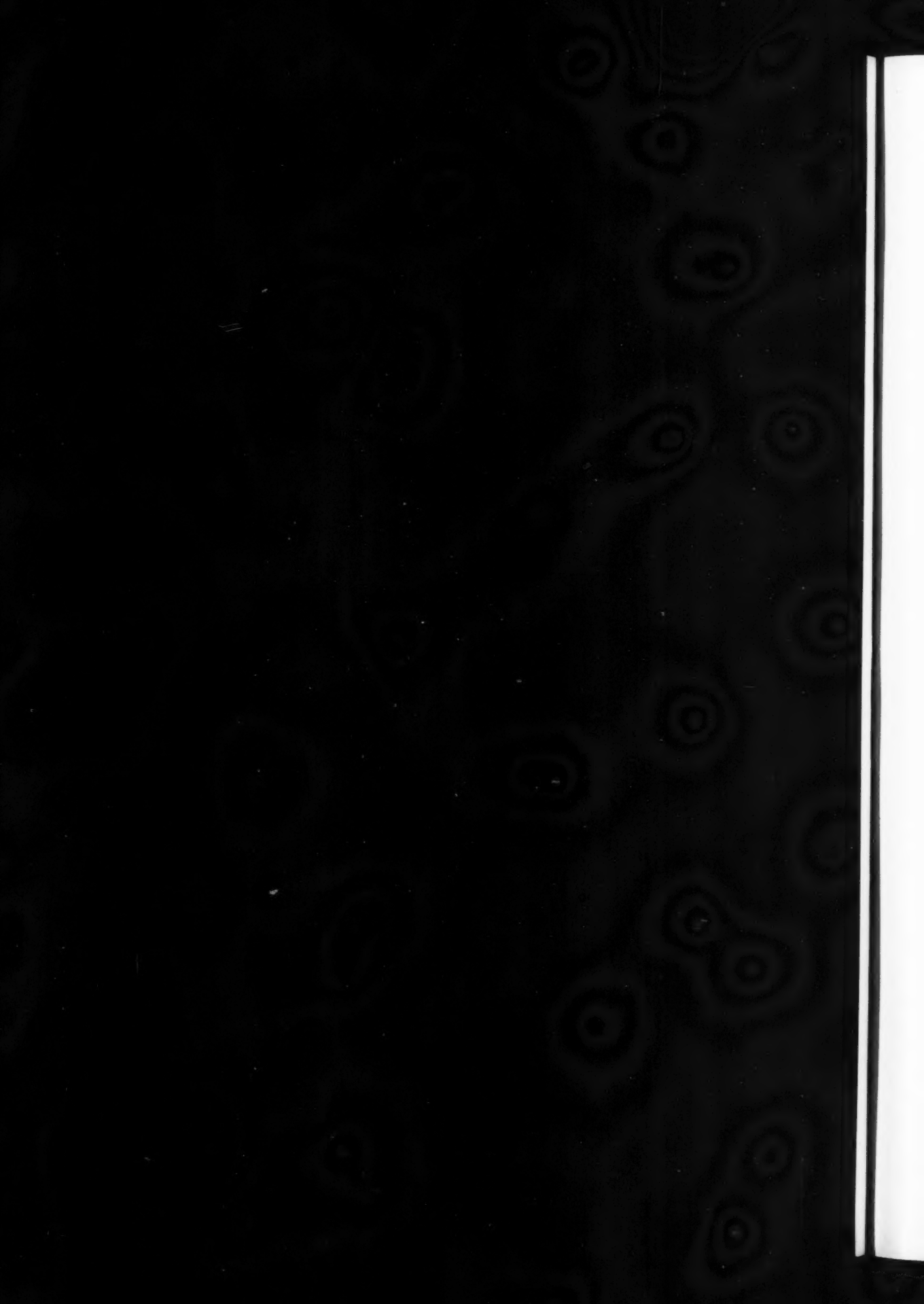

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Vol. XLIV **August, 1948** **No. 4**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Official Family for 1948-1949 is being published as usual for the convenience of those who work with the officers, councils, and committees and as a permanent record of those who will lead the State Medical Association this year.

Adoption of extensive revision of the Constitution and By-Laws at the 1948 annual session provided for several changes in the organization of the Association which are reflected in the accompanying list. Two of the three vice-presidents have been eliminated, and a speaker of the House of Delegates has been added to the roster of officers. The House of Delegates believed that a single vice-president would be more effective than three and that a speaker could save the President from many routine but time-consuming duties in connection with the meetings of the House of Delegates.

The council and committee arrangement was somewhat revised so that in general councils will attend to broad fields of endeavor while committees will be responsible for more specific phases of work. The Council on Medical Defense, which has for many years been considered a part of the officers of the Association, was given the same status as other councils. The Committee on Legislation was raised to the level of a council. The Council on Medical Education and Hospitals was created to replace the Council on Postgraduate Medical Education, the Committee on Health Problems in Education, and the Committee on Medical Education and Hospitals. The Executive Council membership was changed to include all officers, the chairman of each council, and the chairman of the Committee on Public Relations, and the council was delegated increased authority to act between sessions of the House of Delegates. A War Council, consisting of the same personnel as the Executive Council, was created to act in case of national emergency which might prohibit meetings of the House of Delegates. An additional standing committee was created, the Committee on Mental Health, to assure a continuity of effort in the field of mental health.

The officers, councils, and committees for the ensuing year are as follows:

OFFICERS

Tate Miller, Dallas, President.
G. V. Brindley, Temple, President-Elect.
R. E. Windham, San Angelo, Vice-President.
Harold M. Williams, Fort Worth, Secretary (two years).
T. H. Thomason, Fort Worth, Treasurer (two years).
Robert B. Homan, El Paso, Speaker of the House of Delegates.

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E. A. Rowley, Amarillo, Secretary (one year).

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Third District, Harvey H. Latson, Amarillo (two years). G. T. Vinyard, Amarillo, Vice-Councilor.
Fourth District, O. N. Mayo, Brownwood (one year). R. E. Windham, San Angelo, Vice-Councilor.
Fifth District, Cary Poindexter, Crystal City (two years). J. L. Cochran, San Antonio, Vice-Councilor.

Sixth District, W. E. Whigham, McAllen (two years). J. F. Pilcher, Corpus Christi, Vice-Councilor.

Seventh District, William M. Gambrell, Austin (three years). H. J. Hoerster, Llano, Vice-Councilor.

Eighth District, James H. Wooten, Jr., Columbus (three years). T. G. Blocker, Jr., Galveston, Vice-Councilor.

Ninth District, Hatch W. Cummings, Jr., Houston (three years). J. T. Billups, Houston, Vice-Councilor.

Tenth District, L. C. Powell, Beaumont (three years). Stephen B. Tucker, Nacogdoches, Vice-Councilor.

Eleventh District, J. M. Travis, Jacksonville (one year). C. E. Willingham, Tyler, Vice-Councilor.

Twelfth District, J. W. David,[1] Corsicana (two years). Clifford G. Swift, Cameron, Vice-Councilor.

Thirteenth District, R. G. Baker, Fort Worth, Secretary (one year). H. H. Cartwright, Breckenridge, Vice-Councilor.

Fourteenth District, C. C. Nash, Dallas (one year). W. A. Lee, Denison, Vice-Councilor.

Fifteenth District, Joe D. Nichols, Atlanta (two years). Hugh M. Ragland, Gilmer, Vice-Councilor.

Delegates to A.M.A.

Allen T. Stewart, Lubbock (two years).
F. J. L. Blasingame, Wharton (two years).
Robert B. Homan, El Paso (two years).
H. R. Dudgeon, Waco (one year).
B. E. Pickett, Sr., Carrizo Springs (one year).
E. H. Cary, Dallas (one year).

Alternate Delegates to A.M.A.

Harold M. Williams, Fort Worth (two years).
E. W. Bertner, Houston (one year).
H. Leslie Moore, Dallas (one year).
A. C. Scott, Temple (one year).

Executive Council

Ex-officio, President (Chairman), Secretary (Secretary), President-Elect, Vice-President, Treasurer, Speaker of the House of Delegates, Board of Trustees, Board of Councilors, Chairman of All Councils, and Chairman of the Committee on Public Relations.

Council on Medical Defense

L. B. Jackson, San Antonio, Chairman (two years).
Harold M. Williams, Fort Worth, Secretary (ex-officio).
B. E. Pickett, Jr., Crystal City (five years).
Frank Selecman, Dallas (four years).
Thomas M. Jarmon, Tyler (three years).
T. R. Hannon, Houston (one year).
Tate Miller, Dallas (ex-officio).

Council on Legislation

J. B. Copeland, San Antonio, Chairman (four years).
Harold M. Williams, Fort Worth, Secretary (ex-officio).
Elliott Mendenhall, Dallas (five years).
L. H. Reeves, Fort Worth (three years).
John K. Glen, Houston (two years).
G. W. Cleveland, Austin (one year).
Tate Miller, Dallas (ex-officio).

Council on Scientific Work

May Owen, Fort Worth, Chairman (four years).
Harold M. Williams, Fort Worth, Secretary (ex-officio).
A. C. Scott, Temple (five years).
Alfred H. Hill, San Antonio (three years).
R. B. Alexander, Waco (two years).
George W. Waldron, Houston (one year).
Tate Miller, Dallas (ex-officio).

Council on Medical Economics

H. E. Griffin, Graham, Chairman (one year).
Harold M. Williams, Fort Worth, Secretary (ex-officio).
E. W. Jones, Wellington (five years).
Everett C. Fox, Dallas (four years).
Tom B. Bond, Fort Worth (three years).
H. R. Dudgeon, Waco (two years).
Tate Miller, Dallas (ex-officio).

Council on Medical Education and Hospitals

M. O. Rouse, Dallas, Chairman (five years).
Harold M. Williams, Fort Worth, Secretary (ex-officio).
Conn L. Milburn, San Antonio (four years).
D. P. Wall, Galveston (three years).
W. S. Barcus, Fort Worth (two years).
L. F. Schuhmacher, Jr., Houston (one year).
Tate Miller, Dallas (ex-officio).

War Council

Ex-officio, President (Chairman), Secretary (Secretary), President-Elect, Vice-President, Treasurer, Speaker of the House of Delegates, Board of Trustees, Board of Councilors, Chairmen of All Councils, and Chairman of the Committee on Public Relations.

Committee on Cancer

Porter Brown, Fort Worth, Chairman (five years).
John D. Weaver, Austin (four years).
David A. Todd, San Antonio (three years).
C. D. Bussey, Dallas (two years).
Charles Phillips, Temple (one year).

Committee on Medical History

S. E. Thompson, Kerrville, Chairman (four years).
Tate Miller, Dallas (five years).
E. W. Bertner, Houston (three years).
A. A. Ross, Lockhart (two years).
Marvin L. Graves, Houston (one year).

Committee on Public Relations

George A. Schenewerk, Dallas, Chairman.
Harold M. Williams, Fort Worth, Secretary (ex-officio).
Allen T. Stewart, Lubbock.
J. E. Hogan, Big Spring.
A. C. Scott, Temple.
L. L. D. Tuttle, Houston.

Committee on Tuberculosis

C. M. Hendricks, El Paso, Chairman (three years).
Howard T. Barkley, Houston (five years).
Jesse B. White, Amarillo (four years).
Charles J. Koerth, San Antonio (two years).
David McCullough, Kerrville (one year).

Committee on Library Endowment

V. R. Hurst, Longview, Chairman (three years).
J. C. Terrell, Stephenville (five years).
F. T. McIntire, San Angelo (four years).
Walter G. Stuck, San Antonio (two years).
O. B. Kiel, Wichita Falls (one year).

Committee on Mental Health

Hamilton Ford, Galveston, Chairman (five years).
Paul Whtie, Austin (four years).
Perry C. Talkington, Dallas (three years).
Abe Hauser, Houston (two years).
Jack R. Ewalt, Galveston (one year).

Committee on General Arrangements for the Annual Session (all of Houston).—J. L. Cochran, Chairman; John L. Matthews, W. W. Bondurant, Jr., B. F. Stout, L. B. Jackson, T. A. Pressly, J. Manning Venable, T. H. Sharp, Walter G. Stuck.

[1]Appointed to fill the vacancy created by the resignation of G. V. Brindley, Temple, upon his election as President-Elect.

Committee on Memorial Exercises.—A. L. Thomas, Ennis, Chairman; G. H. Sanders, Kerens; Dan B. Hammill, Corsicana; W. T. Black, Quitman; W. C. Tenery, Waxahachie.

Committee on Scientific Exhibits.—X. R. Hyde, Fort Worth, Chairman.

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Committee on Maternal and Child Health.—L. C. Powell, Beaumont, Chairman; L. L. Travis, Jacksonville; Paul L. Brewer, Bay City; A. P. Buchanan, Mineola; Edward I. Hall, Kaufman.

Committee on Venereal Diseases.—T. Alvin Fears, Beaumont, Chairman; J. F. Lubben, Jr., McAllen; Paul W. Mathews, Dallas; H. A. Drane, Jr., Hunt; H. A. O'Brien, Dallas.

Committee on Industrial Health.—Hugh C. Welsh, Houston, Chairman; Carl A. Nau, Galveston; C. L. Tubb, Dallas; Jack Furman, Fort Worth; Dolph L. Curb, Houston.

Committee on Rural Health.—Allen T. Stewart, Lubbock, Chairman; R. H. Bell, Palestine; Troy A. Shafer, Harlingen; J. C. Terrell, Stephenville; H. A. Baker, Wills Point.

SPECIAL DELEGATES

Texas Hospital Association—L. L. D. Tuttle, Houston.

State Health Education Council.—Ben M. Primer, Austin.

Texas State Nutrition Council.—LeRoy B. Duggan, Houston.

State Rural Health Council.—Troy A. Shafer, Harlingen.

Texas Graduate Nurses Association.—Joseph F. McVeigh, Fort Worth.

Lone Star State Medical Association.—E. W. Bertner, Houston.

Oklahoma Medical Association.—Rufus C. Whiddon, Gainesville.

State Medical Association of Louisiana.—Walter B. Brown, Beaumont.

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Sidney Galt, Dallas, Chairman.
R. T. Travis, Jacksonville, Secretary.

SECTION ON OBSTETRICS AND GYNECOLOGY

William F. Mengert, Dallas, Chairman.
Robert A. Johnston, Houston, Secretary.

SECTION ON EYE, EAR, NOSE, AND THROAT

Dan A. Russell, San Antonio, Chairman.
John L. Matthews, San Antonio, Secretary.

SECTION ON RADIOLOGY AND PHYSICAL MEDICINE

C. A. Stevenson, Temple, Chairman.
J. E. Miller, Dallas, Secretary.

SECTION ON PUBLIC HEALTH

William S. Brumage, Austin, Chairman.
J. E. Peavy, Austin, Secretary.

SECTION ON CLINICAL PATHOLOGY

C. T. Ashworth, Fort Worth, Chairman.
John J. Andujar, Fort Worth, Secretary.

SECTION ON PEDIATRICS

W. Pierre Robert, Beaumont, Chairman.
Jack R. Hild, Houston, Secretary.

The Annual Session of the American Medical Association held at Chicago, June 21-25, was outstanding from every viewpoint. Although registration was not as great as at the centennial session in 1947, there was a large attendance. Fellows of the American Medical Association registered at this meeting were 11,963, and there were guests from may foreign countries including delegations from a number of the Latin-American countries.

There were a number of unusual features and several innovations that were introduced at the Chicago meeting. Among these were television programs presented by the Northwestern University Medical School at the Navy Pier, headquarters for the session, medical schools, hospitals, and hotels. These were broadcast each morning and afternoon throughout the entire session from Passavant Hospital and were for the most part conducted as clinics. A closed circuit assured that privately owned sets would not pick up the medical programs.

Other unusual features included athletic performances participated in by persons handicapped by amputations and other physical disabilities, and atomic energy exhibits depicting various phases of atomic fission, particularly as related to utilization for medical purposes.

The scientific program as a whole was outstanding with papers covering almost all the important phases of medicine and surgery.

The scientific exhibits, larger in number, scope, and comprehensiveness than at any previously held meeting of the A.M.A., served as a medium for graduate education of the general practitioner and specialist alike. Motion picture shows and special conferences on diabetes, fractures, and physical medicine were particularly well attended. The technical exhibits also were larger than at any previously held meeting and were representative of medical publications, pharmaceutical manufacturers, and practically every other important industry associated with the practice of medicine in the United States. Situated between the scientific and technical exhibits was the art show, which consisted of paintings and other works of art by members of the American Medical Association. This exhibition occupied a large space and like the technical and scientific exhibits was well attended. The three exhibit sections plus the registration area occupied almost the entire upper deck of the northern portion of the Navy Pier which juts out into Lake Michigan. A large portion of the south pier housed the auditoriums in which general and section meetings were held.

The House of Delegates at the Chicago session, which is discussed in greater detail on this page, was as usual concerned with a large number of important matters which had profound bearing on the future of medical practice in this country. Many resolutions were introduced and each received careful consideration by the various reference committees to which they were referred. Reports of the councils and committees of the Association reflected a vast amount of work by those commissioned to carry on these important phases of the work of the A.M.A. Among the important transactions of the House of Delegates was a complete revision of the Constitution and By-Laws designed to facilitate more prompt and decisive action on subjects of interest to the House.

A distinguished service medal of the American Medical Association was awarded by the House of Delegates to Dr. Isaac Arthur Abt, a Chicago physician who for many years was professor of diseases of children at Northwestern University Medical School and who since 1942 has been professor emeritus. Dr. Abt was born in Wilmington, Del., in 1867, and received his medical training in Johns Hopkins University School of Medicine and the Chicago Medical College, which is now Northwestern University Medical School. He received his doctor of medicine degree in 1891 from the latter school.

This award of distinction was conferred upon Dr. Abt in the ballroom of the Stevens Hotel as part of the inauguration meeting at which Dr. R. L. Sensenich, South Bend, Ind., took over the presidential reins of the American Medical Association for the ensuing year.

Among the other important changes in officers of the Association which took place, Dr. Ernest E. Irons, Chicago, who had been serving as a member of the Board of Trustees, was elected president-elect. Dr. Roy W. Fouts, Omaha, who for a number of years had served as speaker of the House of Delegates, was elected vice-president, and Dr. Francis F. Borzell, Philadelphia, who served as vice-speaker under Dr. Fouts, was elected to assume the position of speaker. Dr. James R. Reuling, Bayside, N. Y., was elected vice-speaker. Three new members of the Board of Trustees were elected, namely, Dr. Walter B. Martin, Norfolk, Va.; Dr. Edwin S. Hamilton, Kankakee, Ill.; and Dr. Gunnar Gundersen, La Crosse, Wis. Other members were elected to fill vacancies on the Council on Medical Education and Hospitals, Council on Medical Service, and Council on Scientific Assembly. Dr. George F. Lull and Dr. J. J. Moore were reelected to succeed themselves as secretary and treasurer respectively of the Association.

The House of Delegates of the American Medical Association convened on June 21, 1948, in the Palmer House, Chicago, with Dr. Roy W. Fouts, Omaha, presiding as Speaker. There were 173 delegates registered for the meeting, eight of whom were from Texas. These included Drs. Howard R. Dudgeon, Waco; B. E. Pickett, Sr., Carrizo Springs; Edward H. Cary, Dallas; F. J. L. Blasingame, Wharton; and Allen T. Stewart, Lubbock, elected delegates from the State Medical Association, and three delegates for scientific sections who were from Texas: Drs. Charles T. Stone, Galveston, Internal Medicine; C. F. Lehmann, San Antonio, Dermatology and Syphilogy; and H. E. Griffin, Graham, General Practice of Medicine.

As a result of the revision of the Constitution and By-Laws adopted during the session, another delegate was apportioned to Texas based on the number of members in the State Association. This office will be filled by Dr. R. B. Homan, Jr., El Paso, who was elected by the House of Delegates of the State Medical Association at the 1948 annual session to become a delegate to the A.M.A. House of Delegates if and when the proposed revision was passed.

The program of the House was loaded to the limit and the meetings, though well conducted by the Speaker, included such a tremendous volume of business that it was difficult to keep up with all that was transpiring. The reports of councils and committees and the resolutions presented were of such magnitude that practically all the problems facing American medicine today were touched upon, and many were painstakingly and thoroughly considered. The complete transactions are published in *The Journal of the American Medical Association*, [137:872-888 (July 3), 955-974 (July 10), 1046-1050 (July 17) 1948]. Certain matters reported briefly in this editorial will be considered in greater detail in subsequent issues of the JOURNAL.

DISTINGUISHED SERVICE AWARD.—The first order of business was the selection of the recipient of the distinguished service award of the A.M.A. The names of Drs. Isaac Abt of Chicago, Alfred Blalock of Baltimore, and Peter Harris of Birmingham, Ala., were presented by Dr. E. L. Henderson, Louisville, Ky., chairman of the Board of Trustees. Dr. Abt was selected to receive the award.

The following honorary members of the State Medical Association of Texas were included among the physicians approved by the Council on Scientific Assembly for election as *Associate Fellows* of the A.M.A. and duly elected by the House of Delegates: Dr. James M. Alexander, Abilene; Dr. Judson M. Andrews, Wharton; Dr. William H. Gentry,

Corpus Christi; Dr. Martin E. Taber, Dallas; and Dr. Martin J. Taylor, Houston.

THE PRESIDENT, Dr. Edward L. Bortz, Philadelphia, in an outstanding address outlined briefly the principal activities of the A.M.A. since the Cleveland interim meeting. He emphasized the important role of the various councils and committees in accomplishing results, mentioning especially the Council on Medical Service with reference to voluntary insurance plans and rural health problems and the Bureau of Medical Economics Research with reference to a study of medical service areas. He also laid special stress on activities of the Council on National Emergency Medical Service, stating that the Selective Service Act just passed by Congress omitted the proposed provision for drafting physicians between the ages of 25 and 45, a provision vehemently opposed by the A.M.A. as being discriminatory. Dr. Bortz emphasized further the importance of a vigorous public relations program within the medical profession.

THE RETIRING SPEAKER, Dr. Fouts, presented some of the problems confronting the Chicago meeting of the House of Delegates. He read the names of delegates who had died since the last annual meeting, after which members of the House stood in tribute. Among the deceased delegates was included the name of Dr. Holman Taylor, the beloved Secretary of the State Medical Association of Texas for many years.

THE REPORT OF THE BOARD OF TRUSTEES, presented by its chairman, reviewed the many activities of the A.M.A. which are carried on through committees and councils responsible to the Trustees and gave a report on the financial condition of the A.M.A. It was noted that the publication *Hygeia*, which serves to spread accurate information on health matters to the public, as well as to the profession, had been showing a financial loss. The reference committee in commenting on this report declared that the value of *Hygeia* is such that the publication is justified even at a loss. The Cooperative Medical Advertising Bureau, which serves as a clearing house for advertising material for many of the state medical journals as well as the A.M.A. publications, was also commended. The House concurred with the reference committee.

Other portions of the report of the Trustees which were worthy of note and which were commented on by the reference committee to which the report was referred and approved by the House are as follows:

The reports of the *councils and laboratories* indicated the abundance and excellence of their diversified accomplishments, but the committee recommended that some method of furnishing information on the work of these councils and laboratories to the rank and file of the membership be studied.

In commenting on the report of the Bureau of Legal Medicine and Legislation, the reference committee stated that *Senate Bill 2189*, which is designed to assist states in providing for local public health units, conforms to the policies adopted by the House of Delegates, but recommended that this bill be amended by adding a definition of public health function which definitely excludes the care of the sick.

A report was made on the medico-legal aspects of *artificial insemination*. The reference committee recommended that the House of Delegates endorse in principle enactment of legislation which is designed to legitimatize offspring when the donor is other than the husband of the woman inseminated.

It was brought out that bills have been introduced in several states to prohibit the *use of animals in medical research*. None of these bills passed in 1947. The reference committee endorsed the action of the National Society for Medical Research in sponsoring legislation in various states for the protection of medical research.

A supplementary report of the Board of Trustees recommended that the seventh point in the National Health Program, which deals with *care of veterans* by the Veterans Administration, be changed. The reference committee recommended the following: The veteran shall be entitled to the highest available quality of medical care in accordance with existing laws and preferably in his own community with the physician and hospital of his own choice. This revision was for the avowed purpose of encouraging the use of local physicians and hospitals by the Veterans Administration and of discouraging continued expansion of the Veterans Administration hospital system.

The supplementary report also reviewed the program and activities of the *World Medical Association* to date, and announced that Dr. Louis H. Bauer, Hempstead, N. Y., a member of the Board of Trustees of the A.M.A., had been elected as secretary general.

There was also mention of the cooperation of the Board of Trustees with the Secretary of the Interior through the sending out of *consulting medical teams* to Puerto, Rico, the Virgin Islands, Alaska, and to the Navajo Indians. It was pointed out that six Texas physicians comprising a team developed from Southwestern Medical College and Foundation, Dallas, had participated in this program.

The merging of the Committee on Rural Medical Service with the Council on Medical Service was recommended by the Board of Trustees. The report of the reference committee, which was approved by the House, recommended that this merger not be attempted at this time but that (1) the Board of Trustees be given the power to continue the activities of the Committee on Rural Medical Service on a committee basis, and that (2) the Speaker of the House refer the matter of merging this committee with the Council on Medical Service together with an alternate proposal for the development of a new council on rural medical care to the appropriate committee of the House for reconsideration and report at a subsequent meeting.

The Committee to Study Conditions of General Practice included in the supplementary report of the Board of Trustees recommendations to give qualified general practitioners hospital privileges and to encourage general practitioners to secure adequate training and to participate in the scientific and organizational activities of organized medicine. These recommendations were passed upon favorably by the reference committee and were approved by the House.

The nursing problem was considered in great detail in the supplemental report through the report of the Committee on Nursing Problems. Among the recommendations which were made and approved was the suggestion that nurses be classified as (a) professional nurses with a subdivision of (1) nurse educators and (2) clinical nurses, and (b) trained, practical nurses. Nurse educators were defined as those with collegiate training and others who have shown an aptitude for teaching, administration, and supervisory positions. The clinic nurse is to be comparable to the general duty or private duty nurse. It was recommended that a course of training for the clinical nurse be reduced to two years. The trained practical nurse is one who has received both theoretical and practical training, and it was recommended that there be at least one year of training made up of three months of theoretical and nine months of practical training. The economic problem which confronts the nurses was discussed at length and the committee urged that steps be taken

to provide social security and retirement plans for all nurses. It was further recommended that hospitals adopt a definite personnel policy for all institutional nurses with a view toward making salaries, hours, sick-leave, and vacations comparable to other fields of endeavor for women with equivalent education and training, and that the cost of essential special nursing care to the patient be covered by prepayment nursing care plans or be included in prepayment hospital and medical care plans if practicable.

THE COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE presented a group of nine basic principles intended to govern the American Medical Association and all its representatives in the medical, health, and sanitary aspects of national defense and the expansion of military establishment under the threat of national emergency. Except for minor alterations these principles were accepted by the House. In general the principles attempted to provide for the most effective use of physicians in both military and civilian care in case of emergency.

The Council on National Emergency Medical Service also presented a resolution urging the President of the United States and the chairman of the National Security Resources Board to take action immediately for the establishment of a civilian medical coordinating board as a part of the National Security Resources Board. This was recommended by the reference committee and adopted.

The Council on National Emergency Medical Service requested that each state medical association and its component county medical societies establish a committee directly responsible for national emergency medical service within its organization and to cooperate with the A.M.A. council.

A resolution from California, approved by the House, offered to the armed forces of the United States the full services of the Council on National Emergency Medical Service and other appropriate groups in the Association in planning orderly methods of selection and induction of medical officers for military and civilian service in case of need, and for a survey of physicians preparatory to drawing up such plans.

THE SECRETARY, Dr. George F. Lull, Chicago, presented a report on the administration of the central office, including a discussion of the public relations program with special emphasis upon press relations. He gave a concise picture of the labor situation in the central office, pointing out that difficulties with unions whose members are employed in the printing of the various publications of the A.M.A. had been resolved.

COMMITTEE ON INTERN PLACEMENT.—The whole problem of intern placement in hospitals was forcefully brought before the House of Delegates at the 1947 meeting at Atlantic City and at the interim session at Cleveland last January. A special committee with Dr. William Bates, Philadelphia, as chairman, was appointed by the speaker of the house to make a study of this problem. This committee presented a number of resolutions which were approved by the reference committee and adopted. These consisted in a specific plan for intern placement and in suggestions for revising certain intern programs. The Council on Medical Education and Hospitals was instructed to begin immediate implementation of these recommendations and to report to the House at the next session.

THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS has been reexamining the methods and objectives of medical education, through a survey of all medical schools, and has endeavored to discover the extent to which medical education has been adapted to modern needs. The council was encouraged to discover the number of medical schools conducting programs to interest students in general practice, and the number of internship and residency programs being established to provide training for general practice. It was pointed out that there is an urgency for additional funds for medical education and that these funds should be obtained by public donation and not by federal subsidy. The council has established a liaison committee between the Advisory Board of Medical Specialties and the Association of American Medical Colleges to make constructive suggestions with respect to the specialty movement.

THE COMMITTEE ON HOSPITALS AND PRACTICE OF MEDICINE reported that certain policies had been agreed upon as follows: (1) That the A.M.A. should take positive action against institutions where investigation has proved they are not operating under the broad principles of ethics adopted by the A.M.A. (2) That physicians as individuals can be disciplined for unethical conduct only according to the machinery already established at the county society level. The report pointed out that the committee proposes to study this subject further. The committee recommended that a study be made by the Bureau of Legal Medicine and Legislation of the various state laws assigning the legal status of corporations attempting to practice medicine, and that if necessary, uniform legislation be prepared to define all of these matters. It was further recommended that the House of Delegates request the Board of Trustees to send an official communication to medical schools, hospitals, the American Hospital Association, and other national hospital organizations, informing them of the principles and policies of the A.M.A. concerning the practice of medicine by institutions, stating that the A.M.A. will be glad to cooperate in every way with such institutions, and appealing to them for immediate cooperation in the plan for preserving the private practice of medicine. The House approved the various recommendations.

THE COUNCIL ON MEDICAL SERVICE report as given by Dr. James R. McVay, Kansas City, the chairman, indicated the vast amount of work which has been carried on by this council during the past year. The council is placing emphasis on community leadership in health problems by the county medical societies and to a lesser extent by the constitutent state medical associations. It is continuing to promote health councils in the various communities, and regional conferences in different sections of the country. The *News Letter* issued by the Council has also served as an excellent medium to promote greater interest and participation in the entire medical service problem which confronts the profession today. The council continues its activities with respect to prepayment medical care plans and special problems assigned by the House of Delegates. Among these are the questions of group practice, of medical cooperatives, and of informing the public concerning the pitfalls and disadvantages of compulsory sickness insurance. In regard to this latter question the council pointed out that there is an almost complete absence in public libraries and those of schools and colleges of reference materials presenting arguments againts compulsory sickness insurance. The council has attempted to make materials available and is now expecting to prepare a question and answer booklet which should be placed in every college, medical school, and hospital library. The report stated that none of the health legislation introduced into the Eightieth Congress which in the opinion of the A.M.A. challenges the best interest of the people was enacted. The Washington Office *Bulletin*, published on the average of every ten days, is of much assistance in informing the profession of what is happening in the national legislative field.

Dr. McVay gave a resume of the *National Health Assembly* held in Washington, May 1-4, and stated that American Medicine came out of the assembly with added friends, prestige, influence, and stature. Failure on the part of those who desired to force a recommendation for a national sickness compulsory plan through the assembly placed the A.M.A. in a position to make available the benefits of its ten-point National Health Program. However, it seems evident that the threat to American Medicine is not over and that the profession must be more than ever on guard to protect the best interests of the public.

Dr. McVay also reported on a meeting called by the Council on Medical Service on June 19 to consider problems of *prepayment medical and hospital care plans*. It was agreed by those attending that there was a need for the establishment by Associated Medical Care Plans and Blue Cross of a national enrollment organization to implement the hospital and medical health insurance coverage of employees of national employers. The matter was referred to the Council on Medical Service and the Commission of Associated Medical Care Plans for further study. The reference committee reported favorably upon this action and the report was approved by the House.

The council also recommended compliance with a request from the National Congress of Parents and Teachers that representatives of state medical associations meet with them, together with representatives of other health agencies, to consider problems relative to child health.

Numerous resolutions were introduced on a multitude of subjects bearing on the varoius problems facing the medical profession today and nearly every state medical association in the nation was represented through one or more of these resolutions. However, the thought expressed in almost all of them was covered in some of the reports of the councils and committees, and only a few of those which were not adequately covered in these reports will be mentioned here.

Several resolutions referring to the current *health insurance coverage of employees of the A.M.A.* were introduced. The reference committee to which they were referred pointed out that the discontinuance of Blue Cross Hospital Service for employees of the A.M.A. has reacted unfavorably to the nonprofit voluntary prepayment hospital and medical service philosophy and to plans developed by the various state and county medical societies. The committee recommended, with the approval of the House, that at the expiration of the present contract for hospital and medical health coverage, the A.M.A. should make every effort to procure this coverage for its employees through the Blue Cross-Blue Shield organization.

Quite a number of resolutons dealing with the *Red Cross Blood Bank* and other blood banking agencies were introduced. Realizing the possibility of a national emergency requiring large amounts of blood in the treatment of civilian and military casualties and realizing the unique position of the American Red Cross in disaster relief, the House decided that no change should be made at this time in its "approval in principle" of the participation of the American Red Cross in the national blood program which had been voted at the interim session in January. Upon the recommendation of the reference committee concerned, however, the House explained more fully its intention in "approving in principle" and suggested the enlargement of the medical advisory committee of the American Red Cross to include nine physicians with definite instructions to meet at stated intervals with the Red Cross and to report regularly to the A.M.A. House of Delegates. The use of the term "free blood" in Red Cross publicity was deplored, and interference with already existing independent blood banks was decried.

Another resolution outlining a revised method of selecting each year the *outstanding general practitioner* by the A.M.A. was approved.

A resolution on *funds to defray expenses of the Woman's Auxiliary* was approved by the House. The resolution recommended including the expenses of the state and national auxiliaries in the budget of each state medical association, thus making the wife of each member automatically a member of the state and national auxiliaries and eliminating the collection of state and national auxiliary dues from individual auxiliary members.

The House of Delegates session closed with the election of officers. The names of most of these are included in the general editorial on the annual session, page 279.

The 1948 interim session of the A.M.A. will be in St. Louis, November 30-December 3. The 1949 annual session will be held in Atlantic City, June 6-10; the 1950 annual session in San Francisco, June 26-30; and the 1951 annual session again in Atlantic City, dates to be announced later.

The American Academy of General Practice, founded about a year ago, has already grown so large that it has been necessary to establish state and local chapters, and the organizational pattern has been decentralized along lines similar to the American Medical Association arrangement. A Texas Chapter, organized during the 1948 annual session of the State Medical Association of Texas in Houston, claims a membership of over 500 general practitioners in the state and is one of more than twenty state chapters already in operation. Dr. J. B. Copeland, San Antonio, is president of the Texas group, and Dr. W. P. Higgins, Jr., Fort Worth, is secretary.

Organization of a national association of general practitioners came as a logical step in the movement to reaffirm the importance of the "family doctor" in the scheme of medical service which the United States has followed so successfully in years past. While the value of the highly trained specialist conversant with the most recent discoveries in diagnosis and treatment in a limited field is not questioned, it has become increasingly apparent in recent years, especially to the patient, that medical specialists do not hold the final answer in successful therapy. More and more the public at large and physicians themselves have realized that much of the answer is in the hands of the general practitioner, the family doctor who, to paraphrase a recent advertisement of a pharmaceutical house, is primarily concerned with *people*, who knows each of his patients as an individual human being with physical make-up and reactions and personal problems which are never quite like anyone else's;

the general practitioner who by his years of training and experience, and his continuing study of advances in medical science is qualified to deal with the many and varied medical problems that arise. But let it be noted that the answer lies with the general practitioner who is *qualified.*

The American Academy of General Practice was established to assist general practitioners in securing the recognition which they deserve, but the founders recognized that general practice requires skill and continuous education as much as the specialties. Membership, therefore, is limited to licensed general practitioners of high moral and professional character who have had at least one year of rotating internship at an approved hospital or the equivalent in postgraduate training and who have been in general practice for at least three years. Applicants for membership to be eligible must have shown interest in continuing their medical advancement by engaging in postgraduate educational activities, and in each three year period a member must complete 150 hours of postgraduate work to continue his affiliation with the academy. Older men who may not be able to fulfill the letter of the requirements for membership but have fulfilled them by experience and study will be given special consideration. Each member must be a member of the American Medical Association.

The constitution of the American Academy of General Practice enumerates the purposes of the association as follows:

"1. To promote and maintain high standards of the general practice of medicine and surgery.

"2. To encourage and assist young men and women in preparing, qualifying, and establishing themselves in general practice.

"3. To protect the right of the general practitioner to engage in medical and surgical procedures for which he is qualified by training and experience.

"4. To assist in providing postgraduate study courses for general practitioners, and to encourage and assist physicians and surgeons in participating in such training.

"5. To advance medical science and private and public health."

The first meeting of the Congress of Delegates, the governing body of the academy, was held in Chicago in June; the first scientific meeting is planned for March 7-9, 1949, in Cincinnati.

Texas physicians interested in affiliating with the academy may secure additional information and application blanks from Dr. H. T. Jackson, Medical Arts Building, Fort Worth, a director of the academy and chairman of a committee on new memberships.

The American Academy of General Practice has an opportunity to perform a service to the public, to the medical profession as a whole, and to the general practitioner. Patients still want and need the family doctor with his understanding of human nature, his respect for personality, and his compassion, but they want and need a family doctor whose scientific knowledge is above reproach. Physicians as a whole realize the importance of competent general practitioners and surgeons who are qualified to care for a variety of patients with an equal variety of diseases but who can and will recognize the necessity of calling on specialists in unusual cases. General practitioners with an eye to the welfare of their patients and to the future of general practice itself are aware that standards established and enforced by their own group can be exceptionally helpful. The American Academy of General Practice can be a force in all of these endeavors.

Perhaps a word of caution, however, would not be amiss. Occasionally special organizations established with the finest motives have gradually assumed authorities which seem somewhat out of line with the original statements of purpose and have strengthened themselves at the expense of their own members and of other equally worth-while organizations, thus creating for themselves a somewhat anomalous position. Let it be hoped that the American Academy of General Practice will develop on a sturdy cooperative basis, keeping foremost the high ideals which brought it into being. By working with the sections on general practice which have recently been established by the American Medical Association and numerous state medical associations, by cooperating with the various councils of the American Medical Association, the American Hospital Association, and other ethical organizations, by being sensitive to the needs of the American people who want and should have good medical care, the American Academy of General Practice can be an active force for the improvement of health conditions in this country.

Public Relations Manual Is in Demand.—Approximately three hundred requests from businesses and institutions throughout the country have been received for copies of "The Physician Meets the Public," a manual of medical public relations prepared several months ago by the Committee on Public Relations of the State Medical Association (April, 1948, JOURNAL, page 745). Most of the demand for the booklet was probably aroused by articles on the manual which

appeared in the June 5 issue of *Editor & Publisher* and the July 19 issue of *Public Relations News* (No. 210), trade publications subscribed to by newspapers, advertising agencies, public relations experts, publishers, universities, and business concerns of all kinds. However, favorable comment from the American Medical Association and medical associations of other states has undoubtedly created interest.

An initial printing of 1,000 copies of "The Physician Meets the Public" was quickly exhausted by distribution to each county medical society in Texas, officers of the State Medical Association, other members of the House of Delegates, secretaries of all state medical associations, and the American Medical Association. A second printing of 1,000 copies was ordered to take care of the spontaneous demand and for distribution to libraries of medical schools and hospitals and to other institutions of higher learning in Texas upon request. Copies sent in answer to requests already received will go to many kinds of industrial and business concerns including insurance, telephone, pharmaceutical, and publishing firms, to newspaper syndicates, advertising agencies, and public relations establishments, to colleges, universities, and hospitals throughout continental America.

The widespread interest in the public relations program of the State Medical Association of Texas, designed to help the public understand what the medical profession has done and is doing to increase community health and indicate to the physician that he in turn needs the friendship of the public, is indeed gratifying. However, in order for the medical profession of Texas to derive the greatest benefit possible from the interest which has been created, it behooves all members of the State Medical Association of Texas, particularly those delegated with the important duty of improving the public relations in their own county medical societies, to familiarize themselves thoroughly with the aims and methods pointed out in this booklet, the contents of which have received the full approval of the Board of Trustees and the House of Delegates.

Activity on the part of county medical societies as well as the Committee on Public Relations of the Association will go a long way toward producing the desired results, but this does not relieve the rank and file member of the Association from doing his part. In view of the widespread distribution of "The Physician Meets the Public" now being undertaken, it should be comparatively simple for each physician to borrow a copy, and county society officers are urged to assist in this distribution. Another means of putting across the message of the booklet is by using it as the basis for a portion of a county society program. The members of the Committee on Public Relations stand ready to assist any society in putting on such a program.

Indications are that now is a favorable time for the medical profession to mend its public relations fences. The fences can never be strong enough to stand against the pressure of cultists and of those who advocate socialized medicine, however, *unless each physician drives his own stakes and stretches his own wire always remembering that the good will he creates for himself also creates good will for the medical profession as a whole.*

Plans for the 1949 Annual Session of the State Medical Association are being made. The Executive Council has set May 2, 3, 4, and 5 as the dates for the session, that week being the only period in which sufficient hotel and meeting space could be assured in San Antonio, the host city. Definite arrangements for meeting rooms and exhibit space have not been made, but it is anticipated that registration, technical and scientific exhibits, general meetings, and two or more of the scientific sections will be housed in the Municipal Auditorium, while the House of Delegates and other scientific sections will meet in a nearby hotel, probably the Gunter.

The officers of the nine scientific sections are at work on their programs for the annual session and will be pleased to receive papers or suggestions of papers for consideration. Papers should be sent directly to the appropriate officers, whose names appear with the list of officers and committees on page 277 of this JOURNAL.

CURRENT EDITORIAL COMMENT*

The U. S. Public Health Service was created by an act of Congress signed by the President on July 16, 1798, establishing the U. S. Marine Hospital Service to furnish medical and surgical treatment to sick and disabled American merchant seamen. Congress later added other beneficiary groups, and at present American seamen, members of the U. S. Coast Guard, Coast and Geodetic Survey, Bu-

EDITOR'S NOTE: The U. S. Public Health Service this year is celebrating its one hundred fiftieth anniversary. The accompanying article was prepared from an address given at a celebration July 16, 1948, at the U. S. Public Health Service Hospital, Fort Worth.

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

reau of Fisheries, government employees injured in line of duty, and others are served. In addition, excess hospital beds are made available to the Army, Navy, and Veterans Administration.

From the beginning the Marine Hospital Service cooperated in helping to enforce state laws relative to quarantine, and when a federal quarantine law was passed in 1883, the Service was designated to carry out its provisions. New and varied functions were added from time to time by Congress, and in 1902 the name was changed to the Public Health and Marine Hospital Service, and in 1912 to the U. S. Public Health Service.

Among the present functions of the Public Health Service are the following:

1. Study of the causes, propagation, spread, prevention, and control of diseases. The Public Health Service maintains several research laboratories, among them the National Institute of Health laboratories including the National Cancer Institute, and provides research grants and fellowships to universities and other public and private institutions.

2. Maritime quarantine and inspection of passengers and crews of vessels and airplanes arriving from foreign ports, and examination of immigrants.

3. Interstate quarantine and assistance in control of epidemics within states.

4. Dissemination of public health information.

5. Assistance to states and local units in establishing and maintaining proper sanitation facilities, general public health services (including industrial hygiene, mental hygiene, and cancer control), and special programs for the control of venereal diseases and tuberculosis, and in surveying, planning, and constructing needed hospital and health facilities. Services include grants, loan of personnel, and consultation and advice.

6. Supervisory control and licensure of the manufacturers of biological products used in the prevention and treatment of disease.

7. Study of mental diseases and drug addiction and investigation of legitimate needs for narcotic drugs.

8. Operation of the Marine Hospital Service, assignment of medical and dental officers to the Coast Guard and Coast and Geodetic Survey ships, maintenance of a medical and health program in federal prisons, and assignment of officers to administer medical care and public health service to the Indians.

9. Operation of the National Leprosarium for treatment and research, and operation of two hospitals for treating narcotic addicts.

10. Administration of a wartime nurse training program.

11. Cooperation with other federal agencies in discharging their various health functions.

12. Participation in the organization and functioning of international health organizations.

Many of the functions of the U. S. Public Health Service are carried out in cooperation with other agencies. For example, immigration work is done in cooperation with the State Department and Immigration authorities, work in federal prisons with the Department of Justice, war work through assignment of officers to the Navy, Army, or Coast Guard, and public health work under the various state health departments. For that reason and because the scientists who staff the Service are not too concerned with publicity, much of the work of the U. S. Public Health Service is not generally known, but its history might be said to represent the history of medicine in America.

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Medical Officer in Charge,
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NAVAL MEDICAL TRAINING PROGRAM

The Navy has instituted an expanded program of professional training for reserve and regular medical officers to permit more Navy doctors to meet the requirements for certification by the various American specialty boards and to encourage young doctors to intern under the auspices of the Navy.

Graduates of class A medical schools who have been accepted for internship by a hospital approved by the A.M.A. Council on Medical Education and Hospitals may be commissioned as lieutenants (junior grade) in the Navy Medical Reserve and continue their intern training with pay. After completing their internships, the medical officers must remain on active duty for one year.

Interns who have completed the one year of obligated service and who have transferred to the regular Navy may be considered for residency training on a competitive basis with other officer personnel.

Resident physicians in civilian hospitals are eligible for commissions in the regular Navy and will be assigned to duty in the hospitals where they hold residencies.

The Navy has 400 approved residencies and fellowships in the various specialties in Naval and civilian hospitals, 100 of which are available to civilian physicians accepting commissions in the Navy and 300 of which are reserved for training for regular medical officers. An additional 100 civilian physicians will be commissioned in the Navy and permitted to pursue their own course, fellowship, or residency. These various types of training obligate the physician to a similar period of Navy service.

Details of the program may be obtained from the Chief of the Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.

ORIGINAL ARTICLES

THE GENERAL PRACTITIONER

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I regard the doctor—the sort sometimes described as a general practitioner—as the headstone of our great profession. Sometimes he seeks help from another sort of doctor, the specialist, but in general it is he who carries the burden; it is he who heals the sick; it is on him that the future of medicine depends. The practitioners of general medicine and surgery make up the bulk of physicians. They are at least the first contacts of all sick persons, and, likely enough, they see the great bulk of the sick.

Something seems to have happened in late years to this group of physicians. They have lost, or they feel that they have lost, much of the esteem in which they were once held. They appear to be becoming rather self conscious; they speak of certifying boards and special societies, and in general they are clamoring for a place in the sun.

What has happened? What caused the happenings? What remedy is there, if there be one? If these questions can be answered, the skies should clear, and the doctor should be restored to the position of eminence that he formerly enjoyed.

INCREASED SPECIALIZATION

In the past thirty years, the entire complexion of medical education has altered. In premedical work, and in the medical school itself, an absurd emphasis is being placed on the sciences. It is not at all clear to me why a knowledge of zoology will make a man a better doctor, or why he should be compelled to learn volumetric analysis in chemistry. These comprise abstract knowledge, useful enough to those who intend to be chemists or zoologists, but extremely difficult to apply at the bedside of an old man dying of pneumonia. I note with some amazement, and I am completely puzzled by it, a statement in the bulletin of the Medical Branch of the University of Texas, which, after listing hundreds of hours of biochemistry and pharmacology, remarks that the teaching of surgical technique is reserved for postgraduate instruction. Yet, although a doctor could practice successfully for a lifetime ignorant of the arrangement of the atoms that make a molecule of urea, he could survive scarcely a week if ignorant of how to tie a bleeding vessel. His patient would not survive, either.

Read before the Section on General Practice, State Medical Association of Texas, Annual Session, Houston, April, 28, 1948.

Instead of teaching bedside medicine to young men who are grounded in the humanities, who have been taught to think clearly, and who are articulate in the English language, we have hundreds of hours devoted to peering into microscopes and learning to differentiate tumor cells and to identify microorganisms. We have long courses in neuropsychiatry and lectures on radiation therapy, but very little of how to handle people, how to approach a bedside, how to observe, and how to reason about one's observations. Everything in the modern medical curriculum points toward specialization, and it is little wonder that, equipped with all of this semi-knowledge, dazzled by the glory of the consulting specialist, and heavy with the debts acquired in getting this costly training, the young man turns to a residency and certification by a specialty board.

Modern hospitals are partly responsible for this trend. It becomes increasingly difficult for the general physician to admit his patients, and even more difficult to schedule surgeries and delivery rooms. Too many hospitals are demanding certification by a specialty board as a prerequisite for staff membership. Some now have so-called general practice sections.

The doctor himself is not free from blame. One of the great problems of the clergyman is that those who come to church are not the ones who most need the preaching; the fact that you are here today indicates that you are not the men to whom the next few remarks should be addressed. All of you know the doctor whose desk is piled high with medical journals the wrappers of which have never been removed. You know the doctor who cannot be bothered to attend his county medical society meetings. That doctor has not helped the cause of the general practitioner much. Too many physicians are too busy ever to seek any graduate instruction. There is scarcely a doctor who could not manage to attend a clinical conference in the nearest metropolitan center once a month, but how many do? In our own hospital there are splendid clinical-pathological conferences every week, conducted by a skilled teacher. They are commonly attended by the resident staff, for whom attendance is compulsory, and one or two visitors.

The public has helped to create the unfortunate condition now existing by swallowing the propaganda fed to it. Every citizen with a sharp abdominal pain demands a professor of surgery. Half the women who are to be delivered must have a specialist in obstetrics. The man with a pimple on his forehead must see the leading dermatologist, and

all complain when the bills come in. The mother of a fat, beaming, and lusty 2 year old makes regular trips to the child specialist, although the family doctor lives next door, and so-on, ad infinitum.

It simply is not true that only a diplomate of the American Board of Surgery can remove an appendix or repair a hernia. I do not believe that an ordinary good doctor cannot cope with the child with measles as well as a pediatrician. It is absurd to say that only an oto-rhino-laryngologist can remove tonsils, but there is a growing body of opinion that these things are so. If the present trend continues, if everything must be done by a certified specialist, if certification by a specialty board is to be necessary for hospital staff membership, there will follow three disastrous events: (1) The general doctor will be reduced to a little first aid and to acting as a directory of appropriate specialists. (2) The costs of medical care will get entirely out of hand. (3) The corollary of the second, medical care will be furnished by government.

I do not wish to be understood as decrying the specialist. Indeed, I myself am a member of one of the most narrow specialties. The modern specialist is an extremely valuable man, an asset to medicine, and a tower of strength to the doctor with a puzzling or technically difficult case. His place is secure and we could scarcely do without him. What I do decry is his glorification at the expense of general medicine and surgery, and the belief that *only* a specialist can do anything well. To give credit where it is due, it is not the specialist who has created this situation, which is the result of the interplay of forces already described.

CHANGING THE PICTURE

What can be done to change this picture? How shall we proceed to restore the doctor to his eminent position in the community? In my opinion we can do these things: change the nature of medical education, encourage group practice in small communities, and improve the standards of general practice. To change medical education is a herculean task. Medical education was not developed in a day, nor will it be changed easily and quickly. But you are the profession; your power and your influence is great. From your ranks come many teachers, you are givers of bequests, and you are or may become potent in organized medicine. What medicine demands will ultimately be achieved.

One of the difficulties confronting the general practitioner is the appalling magnitude of medical knowledge. There is no mind great enough to grasp it in its entirety, and it is only by dividing it into parts to be shared that we may hope to encompass it. However, if men practicing in small towns will cease competing with one another and, instead, will unite their efforts, each doing that which he can do well and learning to do it better, part of the difficulty will disappear. Furthermore, let us not forget that although most specialists deal with small and limited fields, medicine and the practitioner of medicine is interested in the whole man, in everything within his body, and in every external thing that may have some effect on that body. Physicians should see their patients not as cases but as human beings who are ill and who need their help.

General practitioners are engaged in the most comprehensive, the least monotonous, and the most stimulating department of the practice of medicine. They should have pride in it, speak well and with admiration of it, and regard themselves as the very archetype of the physician. They should remember, too, that only the most brilliant should enter the general practice of medicine and surgery. It is indisputable that only the most alert, intelligent, and active minds can attain real success in this great field. This type of general practitioner should feel no inferiority before any specialist, since the extent of his activities and the wide variety of his knowledge make him at least equal and perhaps superior to the man of narrower interest.

I have heard a good deal of talk about a certifying board for general practice. It seems to me that the establishment of such a board would accomplish nothing and, in fact, would be slightly ridiculous. There is a certifying board in every state; it is called the Board of Medical Examiners, and its certificate is the license to practice medicine. Incidentally, the doctor who failed to pass a general practice certifying board would certainly be "the low man on the totem pole." I am not sure that special societies or special journals offer any particular advantage to the general practitioner. There is no field in which the general practitioner is especially interested; he is interested in mankind and its ailments. There is a place for special societies and special journals. Not many of us would care to read a long detailed account of a new surgical approach to a third ventricle tumor, or an article describing the means of determining the electron emission rate of radioactive iron. But all of us must be concerned with the differential diagnosis of the possible lesions in an acute condition within the abdomen, with the recognition and treatment of dietary deficiencies, and with the early diagnosis of uterine cancer. The county medical society, the state medical society, and

the American Medical Association; these are the special societies for the general practitioner where he teaches and where he learns, and where he exchanges ideas with his fellows. The general practitioner must attend his societies and take an active part in them. He must receive, and read, a few well selected journals. He must devote some of his time to graduate work. In short he must (as must every one of us) be a better doctor. Above all, he must be proud of his calling, and must insist that it be viewed with the respect that it so richly deserves.

SOCIALIZED MEDICINE

I cannot leave this subject without one brief reference to so-called socialized medicine, or compulsory sickness insurance. Every physician has heard much about it, and realizes that the threat of it hangs over us constantly. I need not say that all human experience has demonstrated that good medicine withers and dies under the touch of government, and that it is obvious compulsory sickness insurance is a poor way to administer medical care.

Of all the citizens of our country, the general practitioner can do more to save our threatened system of free enterprise than any other single group. He is closer to the people, he has won the confidence of his patients, and his words are heeded more than those of any specialist. He treats them as if they were what they know themselves to be: human beings with virtues and vices, follies and good sense, ignorance and learning, given to mistakes and to making the best of them without whining, sometimes cowardly and often heroic, but always and under all conditions human beings that appreciate kindliness, consideration, sympathy that is uneffusive, and fair and just treatment. When general practitioners tell their patients what the loss of our system of free enterprise will mean to them and to everyone in this country, what meddling with the practice of medicine by bureaucrats will mean to the health of their children and their community, how socialization or state control of medical practice might well be the prelude to the complete destruction of free enterprise, they will listen and they will know that what he says is true. The general practitioner occupies not merely a strategic position in this changing world, but he can, as much as any other group and more than most groups, control the direction and extent of the change that must come with changing conditions. His quiet comments and advice, his reputation, earned by hard work, for justice and fair dealing, his known common sense and clear thinking, will do more to prevent the disasters that would follow the regimentation of medicine under the state or under any alien social order than any other one social force.

The ranks of general practitioners are glittering with the lustrous names of great men. Jenner was a general practitioner in a small town and remained one all of his life. William Harvey, whose discovery of the circulation of the blood ranks with Newton's discovery of the law of gravitation, was a general practitioner. Koch, whose postulates are the very foundation of the scientific method in medicine, was a country doctor who remained one in spite of all of the honors that came to him.

The lengthening of the span of life and the lowering of the morbidity and mortality rates of many diseases during the last forty years have been among the marvels of the age, and they are due largely to the effective work of the general practitioner in applying new discoveries in the science of medicine. All the specialists and health officers together could not have accomplished this wonder without the able support and cooperation of each general practitioner in every community of this large country. He is an asset to his community and his state. He should be proud that he has chosen the most important specialty in medicine, general practice.

MEDICAL EDUCATION

AT ODDS WITH SOME OF ITS TRADITIONS

ROGER I. LEE, M. D.
BOSTON, MASSACHUSETTS

This certainly is a changing world. It may seem like a long time ago, but actually it was only when I graduated from medical school that every young doctor who could raise the money felt he had to study a year in Europe after he finished his hospital internship. Now in 1947 and 1948 we send our American doctors to Europe that the torch of medical science may bring light to their medical darkness.

That is a far cry from the days in which Abraham Flexner, backed by the Rockefeller Foundation, tried to impose European medicine upon struggling American medicine. Doubtless Flexner's criticisms of American medicine were for the most part sound and acted like a gadfly during the period of its growing pains and adolescence. Yet I for one never looked at European medicine through the rosy glasses of the day and I believe time has demonstrated that the European pattern was not something which could be imposed without great modification upon American medicine.

The Dr. E. H. Cary Lecture delivered February 27, 1948, at Southwestern Medical College, Dallas.

Unquestionably we owe much to a vast array of great European figures who not only felt that there was little future in American medicine but that it was inconceivable for Europe ever to sit at the feet of American medicine.

I feel sure that Louis, Charcot, Claude Bernard, Pasteur in France, Virchow, Koch, van Noorden, Roentgen, Fischer in Germany and Austria, Addison, Bright, Graves, MacKenzie in the British Isles must rest uneasily in their graves with such a revolution.

When I took my first medical tour abroad in 1914, before World War I, Osler, Canadian born and professor successively at McGill, University of Pennsylvania, and Johns Hopkins, was Regius Professor of Medicine at Oxford. I may have been more sophisticated than recent interns, because I could not tolerate the brutal and barbaric medicine of Germany and Austria. The famous Allgemeines Krankenhaus of Vienna offended my American ideals of decent care of patients.

With the outbreak of World War I, the hard pressed Allies sought and received the benefit of American medicine even before we entered the conflict. After the war, most of Europe was too spent and exhausted to develop medicine. Germany under Hitler developed a mighty war machine to the exclusion of everything else.

With the onset of World War II, American medicine was already preeminent and turned its vast medical resources over to the common cause of the Allies. By illustration, penicillin, British discovered, was in the main perfected and produced in this country. The present situation is, I think, illustrated tragically by the circumstances that here we discuss the refinements of nutrition while much of Europe is solely interested in an adequate quantity of food.

In our own United States, no longer does the young doctor from the West have any need to cross the Mississippi to add to his stock of medical knowledge. Indeed, the pendulum is beginning to swing the other way, so we on the Atlantic seaboard turn our eyes and our steps westward lest we lag in our medical progress.

It is with particular and pardonable pleasure that I received the gracious invitation of your Dean to address you tonight in the annual Edward H. Cary Lecture. This pleasure was naturally beset with honest misgivings as to any message that I might have. It is a pleasure to greet old friends of whom I am proud to name Dr. Cary as one and to meet new friends of the future. It is a pleasure and a privilege to sit at your feet, to learn from you, and to envisage the future greatness of American medicine, for this will surely be one of the great medical centers not only of our United States but of the world.

But alas, what can I offer in exchange! In common with most of us, I have a deep respect for medical history and medical tradition, but my real devotion is to the future of medical practice and to the future of medical science. I grant that it may be fitting to recall that barely over one hundred years ago at the Massachusetts General Hospital, in which I served as intern and as a visiting physician, ether was first used to produce anesthesia for a surgical operation. It is also just to recall that a Georgia doctor had used ether to produce insensibility some years before. However, in the words of the operating surgeon at the Massachusetts General Hospital, the occasion was "no humbug." Nevertheless our eyes and thoughts are, in my opinion, better turned toward the future rather than toward the past. Likewise, I have the strong conviction that our minds and thoughts are far too often and far too much turned to the past in medical education. We have built up standards and formulas for the education of medical students and subsequently of practicing physicians that seem to me to threaten to shackle our progress in medical education and medical practice.

It was less than one hundred years ago that in the Medical School of Harvard University, with which I am connected, the requirements for an M.D. degree consisted of the demonstration that tickets for two years' lectures had been obtained and punched. In passing, it might be noted that the year's lectures were the same, with due allowance of course for death and, in one case, it may be whispered, murder. There was no laboratory work and indeed no laboratories except for a few professors who had private laboratories. There were no examinations, either for entrance or for graduation. In that era, there appeared a new president of Harvard College, a young man with a little chemical training, Charles William Eliot. The new president had ideas. Why should there not be examinations and laboratories? This was heresy to the dean and the professors. The dean, exasperated to a point of indulging in lurid rhetorical license, hardly poetic license, finally declared that hardly half of the students, could read and write, hence examinations were obviously impossible. But soon there were examinations and, not quite so soon, there were laboratories. Science in those days had no easy road in all the departments of the university. To the profes-

sor of the classics, or of philosophy, the idea that a student's work in a laboratory might be recognized for academic credit was quite repugnant. However, faculties slowly accepted this strange doctrine, although the professors of the various sciences were not readily accepted in the company of self-styled true scholars. Gradually, even if reluctantly, the upstart professor of science was given his due place among scholars, but the professor in his study did not like the bad smells of the chemical laboratory or the noise and possible dangers of the physics laboratory. Curiously enough, the professors of science in the purely academic halls looked askance at the professors of the so-called basic sciences in the medical schools. These latter were concerned with applied science as distinguished from pure science. Even more curiously, the professors of the basic sciences in the medical school looked down their noses a bit at the professors of the clinical specialties.

Happily these fine-haired and long-haired distinctions are wending their ways to the dump heap to join the ashes of other traditions; for example, the belief a century and less ago in England that it was not really respectable to practice medicine. Hence for years the so-called British tradition of medicine was carried on by Irishmen, Scots, and Welsh, and if and when they came to London, they were the great specialists of Harley and Wimpole Streets. In our own day MacKenzie and Fleming were Scottish by birth and Sir Thomas Lewis was Welsh.

The atomic bomb did something besides destroying countless Japanese and bringing Japan to its knees. That something is not the production of fission energy nor of isotopes; it is the realization of the necessity of cooperation of many branches of science. Pure scientists and theoretical scientists joined forces not only with applied scientists and technical scientists but with artisans of many kinds. The atomic bomb shattered scientific traditions.

MEDICAL EDUCATION TRADITIONS

Medical education has still many traditions which need a little atomic bomb treatment. We have segmented our medical education into isolated compartments, corresponding to the specialties and subspecialties of medical practice. Each hungry specialized department shouts for more space in the curriculum of the medical school. If there were as many hours in the medical curriculum as there are dollars in the Marshall Plan, some of the specialties would still wail that they were being starved. Doubtless the time has long since passed that any one man could acquire all medical knowledge. No one, as far as I know, advocates an encyclopedic curriculum which, after all, would be only a collection of a little useful but mostly useless information and a vast amount of misinformation. Anyway, a doctor who, like myself, neither regards himself as young nor is regarded by others as young, knows that most of the important advances in medicine have come since he was graduated from medical school. In my case, the Wassermann reaction, the determination of the basal metabolic rate, the examination by the roentgen ray, to mention just a few of the many, were developed after my graduation. These days every layman anxious about his heart demands an electrocardiogram. The electrocardiographer may be and very likely is a great man, but, after all, the electrocardiograph is only a modification of the string galvanometer of Einthoven. It is just possible that by the irony of fate a man will invent a new gadget which will entirely supplant the electrocardiogram in the scrutiny of heart disease. I fancy that this may have been one of the lesser thoughts of the American general who, according to report or perhaps a rumor, was taken by plane to have a medical officer look at his cut hand. The medical officer stood on his dignity, refused to look at the cut hand, explaining that he was an electrocardiologist and neither knew nor was interested in anything else. Such things have happened, are happening now, and will happen in the future. Kidney stones usually call for the services of a genito-urinary specialist, but there are some kinds of stones that are prevented only by another kind of surgeon who knows how to remove a parathyroid tumor in the neck or mediastinum. The genito-urinary surgeon is having a poor time of it just now. Almost over night there is a swing towards a new technique in prostatectomy. Perhaps tomorrow elderly gentlemen may be taking pills akin to the hormones for their troublesome prostates.

Tuberculosis, once treated by rest, fresh air, milk, eggs, and optimism, is edging over to the domain of the surgeon. The old time tuberculosis specialist is finding himself supplanted in diagnosis by the radiologist and in treatment by the surgeons. In the words of one of those specialists, "if we do not go in for air injections, we are only glorified traffic cops."

Chemotherapy has rather abruptly made the specialty of venerology almost as extinct as the dodo. The surgeon and the radiologist have invaded the specialties of psychiatry

and gastroenterology. A couple of bull's eyes, lucky or skillful, depending on where one sits, have upset the experts on diabetes and pernicious anemia, so that those diseases fall nicely once more into the bailiwick of the general practitioner. The development of hormones has resulted in the encroachment upon many of the so-called specialties. In other words, the "No Trespassing" signs of the specialties have been either removed or disregarded. It seems to be a fact that the discoveries which have altered the specialties have come as a rule from without rather than from within the given specialty. But traditions die hard. They are like some societies which once performed a useful service. In Massachusetts we have the Massachusetts Humane Society, which once had little red sheds to house long boats which went to rescue mariners helpless on the sea. Now the Massachusetts Humane Society gives a few prizes for deeds of valor, but it is mainly noted for the sumptuous dinners that are given to its few members. In Massachusetts, also, we have societies for the relief of needy needlewomen. These societies antedated the sewing machines and the department stores and now find it difficult to discover women entitled to their bounty.

Now to return to medical education, we find fairly rigid classifications of medical departments which have persisted despite the disregard of all boundaries by advances in science. Once there was organic and inorganic chemistry; now in addition to these there are biochemistry, which has usurped the place of physiological chemistry, physical chemistry, chemotherapy, industrial chemistry, and toxicology, to mention only a few. In physics, we find nuclear physics, biophysics, geophysics, mathematical physics, and so on. Pasteur, a chemist, was the father, so to speak, of bacteriology, which now embraces immunology, parasitology, the study of virus diseases, and so forth. Fleming, the discoverer of penicillin, was professor of pathology at St. Mary's Hospital and Medical School in London. The development of penicillin required chemists, mycologists, and some ingenious workers in colleges of agriculture as well as engineers. Anatomy shows a definite leaning toward biology, while topical anatomy is taught often by surgeons and pathologists. Internists practice neurology, while the neurologists mostly make their living practicing psychiatry and neuropsychiatry.

It is said that Nature tries hard to conform to man-made classifications, but there are times when she cannot. It is my thesis that it is time to discard these outmoded traditional classifications of medical education and to start afresh. Doubtless any new classification will in its turn become rigid and must be scrapped for a more suitable arrangement. No one is gifted with omniscience and certainly not with prophecy. Medicine in the large sense is but a part of human biology. For the moment our eyes are dazzled by the brilliant discoveries of bacteriology with its beneficent effect on mankind. Just a few generations ago, in what now seems a less spectacular fashion, we were dazzled by pathology and its contributions to the understanding of disease.

More recently the highly specialized science of organic chemistry has had its day of glory. It seems that upon the physico-chemical foundation which we now possess medical science and medical education can erect a noble edifice. We have an entirely different concept of the chemistry of the human body than when I was in medical school. At that time a physician examined urine in a specified fashion and out came the answer as to what kind of a nephritis the patient had. The same was true of diabetes. The next advance was blood chemistry. It was soon realized that while the chemical analysis of the blood was more revealing than the examination of the urine, it was only a step nearer the real activity. The fundamental activity of the body of man is in the cell. Obviously, what I am trying to say is that the problem lies in what makes the body click and how the clicking can be modified according to our wishes.

If you have followed me this far, it must be evident that I believe the next era will be the era of physiology, not the physiology that most of us knew, but the modern physiology, and experimental physiology, or better, experimental medicine will dominate the medical horizon. Claude Bernard, nearly a hundred years ago, had this concept, but without our physico-chemical foundation. The brilliant researches of Pasteur, another Frenchman, however, rather shoved Claude Bernard and his experimental medicine to one side. It seemed as if there was a limited supply of energy for medical science and it was nearly all absorbed by bacteriology. Nevertheless, bacteriology has but a limited scope, important though that may be, in man and in medicine. Knowledge of bacteriology tells us how men may die of infectious diseases and how they may be saved. But man is a biological entity with many other functions than that of avoiding infections and not dying of them. I know you will understand me if I emphasize the restricted scope of bacteriology and even if I dwell on the

fact that bacteriology is not concerned at all with man's effectiveness as an entity, with his ability to adjust himself to given environments, with his happiness, nor with his intellectual pursuits. On the other hand, experimental medicine (or physiology if you will) aims to create a better, healthier, saner, happier man, better adjusted to the changed and changing environment of civilization (and may I say so-called civilization). Man needs all the help he can get, not only to adjust himself to living, but to adjust himself to the mechanistic age of yesterday, to the atomic age of today, and presumably to some other kind of age of tomorrow.

In the broad sense, experimental medicine concerns the clinic as much as the laboratory. The application of experimental procedures must eventually be made in the clinic and in practice. There must be continuous integration of the laboratory and the clinic. The artificial segregation of the fundamental sciences, of the basic medical sciences, and of clinical medicine must be broken down.

MODIFICATION SUGGESTED

What does this mean in medical education? Much oversimplified it means the introduction of clinical instruction with the beginning of the medical curriculum. It means the continuation of the instruction in basic science throughout the medical course, and there is now a healthy tendency in that direction. No longer should there be from one and one-half to two years of instruction almost exclusively in basis science and then from two to two and one-half years devoted almost exclusively to clinical studies. In many medical schools, the basic sciences of medicine are taught in a different locality from that of the clinical subjects. This I believe is detrimental. I have always believed that it was unfortunate that the Medical School of Harvard University continued in Boston and the College remained in Cambridge. It is true that Boston and Cambridge are only separated by the placid Charles River and by fifteen minutes by motor, but the proximity of all sciences, pure, applied, natural, or physical to the clinical is to me of great importance. I hope there will result a shortening of the medical course to not more than three years. I trust that much of the encyclopedic data, which will be obsolete shortly after graduation, can be eliminated. A precious year saved, not to mention the financial saving to the student or his parents, can better be utilized at some future time. Within the framework of medical education is included the hospital internship and often residency. The hospital period is too often haphazard in that the intern and resident are too much left to self-education and too little exposed to formal education and supervision.

It has often been said that important as are the first four years of medical education with its concentrated instruction, of more importance to a medical career are the next four years even with casual and spotty instruction, and of the greatest importance of all are the succeeding four years, in which the instruction is largely either self-instruction or apprentice instruction. I gladly grant that the best of apprentice instruction is the best education of all and that the best of self-instruction is a close second, but such a system is fraught with dangers that are only too apparent.

In medical education there are techniques to be mastered. Microscopy is one, physical examination is another, surgical technique is still another. Every medical student does not have to master all of them. It should be possible to effect large savings of time (and of money) in the education of technical specialists. I am personally much concerned by the period of time (and the cost) of a medical education. Are we not doing what the giants tried to do in the Greek mythology when they hoped by piling Mount Pelion upon Mount Ossa to reach the abode of the gods? It is now as then a laudable ambition, but will it succeed any better? A young man, better under 30 than over 30, has more drive, more energy, more insatiable curiosity than an older man. I think I can detect signs that some of our abler young men feel that medical education is too long, too formidable, and too expensive, and exacts too great personal and family sacrifices to warrant its undertaking and are turning to other careers.

The medical profession in the last analysis depends upon the raw material which medical education aims to mold. Medical education can afford to lose none of the best of young men who turn interested glances toward medicine. I know the usual answer is "Why, the medical schools have several times as many applicants as there are places." That smug answer does not satisfy me because in the first place, most prospective students make application to several schools; in the second place, this accounts for 10 per cent or so of really poor students in every medical class in every school; and, in the third place, there are too many of the best young men who reluctantly turn to other careers than medicine. Perhaps the critical period has not yet arrived. In New England we have empty mills that once were flourishing when they made cotton stockings

and flannel petticoats for women, but which did not see the signs of changing times. Within reason, medical education must be made attractive, and must meet the changing times. Medicine must not exact too many years of preparation or too great a drain on the family finances and the energies of students compelled in off hours to supplement meager resources.

One of the wisest men in education once dryly remarked that if the process of medical education was prolonged much more and the retirement age continued to be lowered, a man might be retired, if not before he was educated, at least about the same time. Pavlov was scientifically productive after 90, but Banting and Best were youngsters (Best was a medical student) when they discovered insulin. Statistically it cannot be proved either way, I suppose, but I cling to the tenet that young men on their own have a harder bite and a more aggressive attack on problems, especially medical problems. As I have said earlier, medicine is changing, is ever attacking, is ever advancing. Medicine is concerned with the future and not with the past. Medicine is a young man's job.

I do not want to minimize the pitfalls involved in a plan, the rough outlines of which I have so crudely sketched. An obvious and yawning pitfall which is only too patent is that every department of a medical school will strive to be a self-sustained hierarchy in itself, as well as that every hospital will endeavor to be a complete medical school in itself. That would be a reversion to the old London type of medical education in which each hospital was also a medical school. This would defeat the essential feature of the proposed plan by bringing about again the narrow and rigid segmentation and segregation of medical endeavor. It would lead to petty competition within the smaller groups of the larger plan. It would close doors which should be open.

If we can give up the notion of rigid isolation, the laboratory experimentalist may pass freely from the laboratory to the clinic and the clinician may pass freely from the clinic to the laboratory and each may stay awhile and return or not as he wishes. It is, I think, a grievous misfortune if the clinic is only a testing ground for laboratory discoveries. Certainly the clinician, at the moment interested in heart diseases, may well have access to the laboratories of experimental physiology, of pharmacology, of chemistry, and of physics. Per contra, the pharmacologist in the laboratory, or the chemist in the laboratory, should have access to the clinic to study further the action of drugs on the heart, on diuresis or the influence of physical or chemical states on edema or blood flow. It seems to me highly undesirable that complete laboratories should be set up in every clinic for such purposes, but the point is free access to all assets of the plant.

The greatest assets of any educational institution are the great men in it. These men are not always found in the biggest or busiest laboratories or clinics. The real laboratory of great men is their minds, which produce ideas. Access to great minds and great ideas must be free and easy. There will always be many workers, few of whom will produce ideas, but all the workers should be exposed to great men and to ideas, for the work of the world is accomplished by many who are not truly great, but who can utilize the ideas of others.

I have a strong conviction that your great Southwestern Medical Foundation has all the possibilities and potentialities of truly great accomplishments. I honestly believe that your success will depend upon the resolute courage with which you turn your eyes to the future and away from the past. I believe that you must be prepared to discard many conventions and many traditions. If you must have traditions, recall that Hippocrates was at war with the debating Academicians who had forgotten and neglected the patient in their theorizing. Again may I insist that medical education does not deal with yesterday, and hardly with today, but always with tomorrow.

As an outsider, I have yielded to the temptation to indulge in a bit of dreaming and advice. If I seem to be, which I really am, at odds with some of the traditions of medical education, I assure you that it stems from my high hopes for your great success and from my idealization of the greatest and noblest of all the professions, Medicine.

264 Beacon Street.

EFFORTS TO IMPROVE CANCER ARTICLES

The American Cancer Society, in an effort to discourage premature or inaccurate articles on cancer by popular magazines has recommended (1) that physicians or scientists who supply information for a magazine article on medicine or research suggest that the author check the article with them or with the American Cancer Society before it is published; (2) that letters of criticism couched in moderate terms be sent to the editor of a magazine which has published an article that appears to be out of line; (3) that physicians and scientists cooperate with the American Cancer Society in a unified effort to clear articles on cancer; (4) that physicians and scientists send suggestions for articles to the American Cancer Society, which will cooperate in presenting ideas to national magazines.

REDUCTION OF MATERNAL AND INFANT MORBIDITY AND MORTALITY THROUGH CONTROLLED NUTRITION

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Progress in obstetrics, if not spectacular and rapid, has kept pace with development in other branches of medicine and surgery. The application of newer developments and newer techniques in physiology, pharmacology, and other basic sciences has improved mortality statistics to a degree to which we may point with some pride. Unfortunately this newer knowledge has had little appreciable effect upon some dreaded conditions to which many pregnant women and their infants are heir. Among these is one menace which I should like to emphasize, namely, toxemia of pregnancy with eclampsia. The death rate from this complication remains high: 18 per cent for mothers and 33 per cent for infants.

Dieckmann[1] described thirty-seven different tests to determine kidney function. Even though all these tests are made, it still is impossible to determine kidney reserve. By the same token it is impossible to predetermine the productive capacity of a woman. The truism that every pregnant woman is a potential candidate for toxemia of pregnancy, and/or eclampsia, still commands caution and respect. The meagerness of our knowledge of treatment in this field is such that at present our most effective weapon lies in prevention. Thus far our method has been limited to general measures without convincing details as to their effectiveness. Depending upon the whims and convictions of the individual physician, the patient is exhorted to observe certain procedures, the aims of which are to preserve her teeth, regulate her intestinal functions, pay attention to her diet, and observe such rules of personal hygiene as to afford her a feeling of well being.

That nutrition has its effects on the course of pregnancy is a phenomenon which physicians have appreciated for centuries. These effects have always been considered good or bad depending upon the quality and quantity of nutriment consumed by the patient. Judgment as to what and how much food was beneficial or harmful varied considerably with the state of knowledge at that particular time. It is only natural, indeed inescapable, that many erroneous ideas and superstitions which at one time sounded plausible, and now seem entirely lacking in logic, still linger to the detriment of the patient and the confusion of the physician. As an example, there is the belief among some patients that cravings for certain foods during pregnancy must be satisfied if the infant is not to suffer dire consequences. Of what value is, let us say, a piece of chocolate to the developing fetus? No less illogical, but more damaging, is the belief prevalent among some that the pregnant woman must eat for two. More outstanding yet in this comedy of errors is the popular warning given to some pregnant women, even today, that they must avoid meat and other protein foods. On this item I have more to say.

Let us now return to the toxemias of pregnancy. I shall concern myself with only one phase of this complication, namely, its prevention. Obviously a woman entering pregnancy with damaged kidneys or with a diseased liver must depend upon the fates to carry her through this precarious period. It is my contention, however, that even under these circumstances much can be done to relieve the load on these organs and thus at least minimize the dangers to which such a patient is exposed.

For years I had the feeling that there was a direct relationship between the incidence of toxemia of pregnancy and increase in weight during this period. My growing interest in the nutrition of the gravid woman dates back more than twenty years, but it was not until a decade ago that I began to pay particular attention to dietary control among my patients, and the effects of this restricted nutritional regimen upon complications of pregnancy and labor. In 1946 I reported the findings on the first 1,000 patients[2] who had gone through their pregnancy on this restricted program with a maximum weight gain of 16 pounds. The results of the analysis of these cases was a complete surprise to me because in the whole series reported there was no instance of toxemia of pregnancy. There was no maternal mortality. The fetal mortality was .6 per cent. I should like to point out that the cases in this report represented only those women who had cooperated in the program to my own satisfaction, as I shall outline subsequently. There were 366 other women seen during the period of study who either were not organically sound or failed to cooperate and gained 20 pounds or more, and who, therefore, offered comparisons for the report. In the latter group there was no maternal mortality. The fetal mortality was 3.6 per cent. Table 1 shows the comparative fetal mortality among the 1,000 patients on controlled nutrition

Read at a general meeting of the State Medical Association, Annual Session, Houston, April 28, 1948.

and the 366 who were not controlled, were overweight, or were organically unsound. Table 2 summarizes a study of the 366 patients in table 1.

TABLE 1.—*Fetal Mortality in Nutritionally Controlled Group as Compared to that in Group not Controlled, Overweight, or not Organically Sound at Conception.*

	No. Cases	Gross Mortality* (per cent)	Corrected Mortality† (per cent)	Corrected Mortality Adjusted To Prematurity‡ (per cent)
Controlled	1,000	7.9	4.9	3.5
Uncontrolled	366	7.9	4.9	3.5

*Pregnancy of 5 months or more.
†Pregnancy of 28 weeks or more.
‡Exclusion of infants 32 weeks or less in utero.
NOTE: In the latest group of 400 cases placed on controlled nutrition, less than 0.3 per cent failed to cooperate. In the cooperating group there was 1 fetal death (breech). This made a fetal mortality of less than 0.4 per cent.

The large number of cases studied since the publication of that report and the insignificant number of toxemias developing on this regimen has convinced me that controlled nutrition during pregnancy is an extremely potent factor in the prevention of toxemia among pregnant women.

NUTRITIONAL PROGRAM

Controlled nutrition needs no defense among physicians. In my opinion weight in any healthy person is controllable. Usually nutritional control is sufficient, though in some cases dietary restrictions may have to be complemented by thyroid substance, and occasionally other medication to which I shall refer later. It is simple arithmetic that if food intake is above energy expenditure there is a positive balance in the form of weight. We know that proteins stimulate metabolism, but carbohydrates and fats retard it. While all three classes of foods are utilized in human economy it is the proteins which are the most important. They are justly called the body builders in that they repair the waste tissue of the mother and contribute to the formation of new tissue for fetal growth. Clinical and experimental reports indicate that during pregnancy the additional protein requirement ranges from 20 to 30 Gm. daily.[5, 9] (I refer to animal proteins, of course. Vegetable proteins are of questionable value because they are generally poor in essential amino acids.) Proteins can be converted into carbohydrates and fats in case of non-availability of the latter foods.

There are other physiologic criteria during pregnancy which call for a high protein intake. Most physicians are familiar with the mechanics by which edema develops.[6] Reduced to its elementary terminology it becomes a matter of osmotic pressure maintained largely by the serum proteins in the blood vessels. Experiments have shown that when the serum protein level falls below 5.3 Gm. per 100 cc., fluid retention (in the form of edema) results.[7] Rarely does edema of pregnancy exist alone. Usually there is hypertension and albuminuria. The triad, edema, hypertension, and albuminuria, Paul Milliez (Paris)[3] calls the alarm syndrome. We also know from the work of G. W. Thorne[8] that estrogen production is vastly increased during the latter months of pregnancy, and according to O. G. Van Smith, estrone, progesterone, and estradiol have a peculiar effect on metabolism in that they promote retention of sodium and water. The importance of maintaining a high serum protein level during this period therefore becomes obvious.

I need not stress the role of serum protein in wound healing except to point out that women on a high protein intake as a rule have a far more comfortable puerperium than those whose serum protein levels are in the substandard figures.

A record of my last 61 patients with Rh negative blood brought out the following facts: Forty were primagravidas, 21 were gravida 2 or more. There was no instance of fetal or maternal mortality or morbidity. There were 3 babies born with mild jaundice. There was no erythroblastosis. The mothers were all on high protein regimen. It is logical to assume that the protein gave enough protection to the livers of these babies to prevent damage from Rh agglutinins which may have developed. I make this assertion because recent experiments point to meonine[4] (an essential amino acid, dimethionine) as exerting a protecting influence on the livers of such babies.

TABLE 2.—*366 Patients Not Included in Nutritionally Controlled Group.*

	No. Cases	Fetal Mortality
Those not organically sound because of hypertension or diabetes:		
Essential hypertension	15	1 (6.0%)
Hypertension (nephritis)	2	
Overweight before conception	89	
Initial blood pressure over 145/85	87	9 (10.3%)
Those overweight at the beginning of pregnancy:		
Overweight	66	
Excessive gain	39	
Overweight before conception plus excessive gain	22	3 (14.3%)
Those who could not or would not cooperate	253	

The value of minerals during pregnancy is well recognized. Everyone knows that these substances are necessary for bone formation of the developing fetus. Most physicians, therefore, are careful in supplying these minerals either through diet or through supplemental allotments in the form of pharmaceutical products. Too often, however, we overlook the importance of ascertaining, where possible, whether these minerals are absorbed into the maternal circulation. It is

well known, for example, that iron given in the presence of hypoacidity cannot be absorbed unless acid is supplied. Calcium is best given in combination with vitamin D; otherwise it may not be absorbed.

Frequent examinations of the blood and urine to detect signs of anemia, kidney or metabolic dysfunction are procedures which, I believe, every obstetrician follows. If such examinations have been neglected, fatal results may follow. For example, a patient who had not had any prenatal care was admitted in labor to a Charity Clinic in Omaha a short time ago. She had a red blood cell count of slightly above 2,000,000 and 5 Gm. of hemoglobin per 100 cc. of blood. Her labor was uneventful. Her blood loss was within normal limits. She promptly went into shock. Intravenous plasma was started at once but the patient succumbed before whole blood could be given.

A gain in weight may indicate an excessive caloric intake or it may be due to a disturbance in the electrolytes resulting in fluid retention. Any sudden gain in weight requires prompt evaluation. It may call for further dietary reduction, or for larger doses of thyroid or restriction of sodium intake, depending on the individual case.

At this point I should like to digress for a moment to give my method of administering thyroid substance. Every patient with a pulse rate below 70, regardless of her basal metabolic rate, is given small daily doses (grains .25) of dessicated thyroid. The dose is increased every fifth day until there is indication of toxicity (sweating, tremor, sleeplessness, nervousness, and so forth) at which time the drug is discontinued for four days. On the fifth day dessicated thyroid is again started in amounts equal to the last daily dose which did not disturb the patient.

Patients willing to cooperate but who find it difficult because of what they call a voracious appetite receive dexedrine sulfate in 5 mg. doses three times a day to dull their appetites. This drug is related to the benzedrine group but does not elevate the blood pressure nor does it produce insomnia to a degree shown by benzedrine. The results have been satisfactory. I have found the action of pyribenzamine similar, and at times superior to that of dexedrine, with no untoward effect.

Thus far I have tried to give the rationale of a sound program which involves controlled nutrition during pregnancy, and which I have found useful and simple, as well as beneficial to the pregnant woman and her developing offspring. The basic criteria are (1) restriction in the caloric intake to prevent excessive gain in weight; (2) liberal allotment of animal proteins to supply essential amino acids and to maintain a serum protein consistent with normal osmotic pressure to prevent edema; and (3) inclusion of accessory food factors which consist of vitamins and minerals to prevent anemia and secure the absorption of the necessary elements of growth.

METHODS OF MOTIVATION

Next I wish to outline the methods of motivation in the program. It is my belief that every pregnant woman who presents herself in the office of the obstetrician does so with a spirit of eagerness to cooperate to the best of her ability in the hope of avoiding unnecessary complications in pregnancy and delivery.

The series of 1,000 obstetric patients referred to earlier is out of a group of 1,366 patients who were under observation. Of the first 800 seen 25 per cent failed to cooperate. Of the next 400 there were 10 per cent who failed to cooperate. Of the last 166 there were about 2 per cent who did not cooperate. There are two chief reasons for improved results: (1) experience on my part and (2) education in the community resulting in less interference from well meaning relatives and friends. Of the total of 1,366 there were 113 not included in the report because they were classified as not organically sound when first seen.

Since the 1946 report, upward of 400 obstetric patients have been placed on controlled nutrition. Of this series less than .3 per cent failed to cooperate. The fetal mortality was .23 per cent in this series. There was 1 fetal death, a breech delivery.

To keep the patient under nutritional control two basic qualifications on the part of the physician must be met: (1) He must be convinced of the rationale and benefits of the program. (2) He must maintain a sympathetic attitude toward the patient. Tact and diplomacy must be exercised and time allowed for discussion of the regimen in full detail. Principles of nutrition must be elucidated in language that the patient comprehends. I give each patient a booklet I have prepared, in which is written in plain language the purpose of the controlled nutrition, caloric values of 300 foods, along with up-to-date information about vitamins, minerals, and so forth. I find this booklet helpful to the patient and myself. It must be remembered that the patient has some knowledge but that this knowledge may be fixed with theories that have long been exploded, superstitions which must be cast aside. It is necessary to explain not only the general purposes and results of weight control but also the im-

portance of weight in the economy of pregnancy. The physician must constantly bear in mind that this program is not easy for the patient to follow. Leaving the dinner table partly hungry, as is frequently necessary, is something few people cherish. The patient must weigh herself on a reasonably accurate scale at least once a week. She should be taught to be weight minded and to realize her carbohydrate and fat intake must be gauged by her weight, not by her appetite. Obviously, therefore, the obstetrician must create interest, and the best way to stimulate such interest is through motivation. This is an art which more than any other phase of patient-physician relationship requires strict individualization. My own procedure consists in pointing out three main advantages.

1. Advantages to the Patient.—An appeal to a woman's personal vanity brings interest and attention. Here is the most effective approach. The prevention of excessive weight preserves both personal appearance and charm during pregnancy and postpartum and lessens discomfort. There is also less trouble with the abdominal muscles after the baby has been delivered than among women whose muscles and skin are over-stretched because of excess weight. I also stress the point that a mother who gains a minimum of weight during pregnancy has an easier labor.

2. Advantages to the Baby.—Nutritional control leading to an uneventful pregnancy and uncomplicated labor, requiring less sedation, saves the infant the risk of asphyxia, injury, and many other unfortunate sequelae with which we are all too familiar. Also, under this program, mothers are more frequently and better able to nurse their infants. The obstetrician has the opportunity to educate his patients toward a more wholesome and more amenable attitude on nursing. It is regrettable that so many physicians are negligent in this respect.

3. Advantages to the Physician.—To my mind this phase of the discussion is the best method, not only of personal but of public relations as well. I always try to assure my patient that I share a personal interest with her in the proper nurture and development of the baby. I aim to impress her with the fact that I have full confidence in her ability to carry through the program and that I shall feel proud if the results are successful. Nor do I hesitate to make it plain that I am constantly striving for lower morbidity and mortality rates for mothers and babies under my care, and that I shall do my utmost to help her avoid unnecessary hardships. The obstetrician should realize that a smooth course in pregnancy and the delivery of a healthy infant afford him not only personal satisfaction but likewise bring professional satisfaction together with enhancement in prestige.

Most patients cooperate in this program wholeheartedly. Some will come in with apologies for occasional gains. If the gain is less than 2 pounds over the month I simply offer encouragement to secure continued cooperation. A higher gain than that calls not for admonition, but for emphasis on the importance of cooperation. Some, alas, quibble and argue, and point to their friends who seem to be getting along just as well on higher rations. Depending, I suppose, on my mood at the moment, I either give them a pep talk on the importance of adhering to the program or, if they become chronic offenders who need constant encouragement, I ask them to return every two weeks. I have always followed a policy to give the patient the opportunity of asking questions and to answer these questions in accordance with their comprehension. I feel that the patient is entitled to the best service I can possibly supply. I think that is the duty of every physician.

Finally, to me it is almost an axiom that conforming to a regimen of controlled nutrition is excellent preventive medicine and upon it depends the integrity of man.

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CHEST COURSES ANNOUNCED

The American College of Chest Physicians is sponsoring courses in the latest developments in diseases of the chest at San Francisco, September 13-17 (in cooperation with the University of California Medical School and Stanford University School of Medicine); at Chicago, September 20-25; and at New York, November 8-12. Each course is open to all physicians at a tuition fee of $50 per course. Application for the San Francisco course should go to Dr. Stacy R. Mettier, head of Postgraduate Instruction, Medical Extension, University of California, San Francisco; for the Chicago and New York courses, to the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10.

SERUM PROTEINS IN PREGNANCY

EFFECT OF FOOD RATIONING AND RELATION OF SERUM PROTEIN LEVEL TO EDEMA

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Early in 1945 it was realized that food rationing would soon be abolished and that it would be interesting to determine what, if any, effect the limited rationing of food was having on the nutrition of pregnant women. It also offered a rare opportunity to study the relationship of edema of pregnancy to the serum protein level of the blood under controlled conditions of a relative maximum of meat intake.

A total of 415 pregnancies were studied, but because of complicating factors, 38 cases were excluded, leaving a total of 377 cases on which this report is based.

REVIEW OF LITERATURE

McLester, Dieckmann, and Adair were probably the first proponents of an adequate protein diet in sickness as well as in health. The past six years have seen an avalanche of articles recognizing the importance of an adequate protein diet and its bearing on patients with various diseases and those undergoing surgery

Youmans made extensive studies of nutritional edema following World War I and called attention to its "endemic" presence in this country. Hypoproteinemia, and more specifically the reduction of the albumin fraction, may result from three causes: (1) chronic malnutrition, (2) loss of protein from the body as in kidney disease, burns, bleeding, and so forth; and (3) failure in protein formation as in liver disease.

Youmans' nutritional edema is caused by chronic malnutrition and is the subject of interest in this paper. He explained this edema on Starling's osmotic pressure theory, but made an interesting additional observation, namely, that environmental temperature variations modify areolar and capillary dilatation, thus influencing the amount of edema. In other words, nutritional edema develops at a higher serum protein level in the tropics than it does in a colder climate. Hence, "heat edema" is nutritional edema." Youmans also recognized the importance of posture, tissue pressure, salt and water intake, and exercise on occurrence of edema.

Dieckmann and Swanson in 1939 emphasized the importance of high protein intake in pregnancy.

Stefansson, in his arctic experiments, remarked on a feeling of increased well being and vigor in himself and among his followers during nine years of entirely (?) protein foods. Hewlett further explained Stefansson's findings by stating that an abundance of fresh meat contains adequate amounts of "extrinsic factor" and is an effective antiscorbutic. Boyd stated that nutritional macrocytic anemia appears to be due to a deficiency of the extrinsic factor in the diet and is similar in nature to the so-called pernicious anemia of pregnancy. The extrinsic factor is closely related to the B complex in yeast, and as stated before, is particularly abundant in meat.

Bethell has demonstrated that the protein content of the diet bears an important relationship to the incidence of anemia in pregnancy. In 1936 Weech and Ling studied 28 patients with nutritional edema and showed in this limited series that edema was never present when the albumin fraction had been raised above 2.9 Gm. and was never absent when the albumin fraction was below 2.5 Gm. Adair and Dieckmann have set 5.3 Gm. per 100 cc. of blood as the critical level at and below which hypoproteinemia edema occurs. Other workers set the critical level around 5.5 Gm. per 100 cc.

Strauss, in a discussion of edema in pregnancy, reemphasized the view that water retention is primarily conditioned by the level of the plasma proteins, the amount of water retained being in inverse proportion to the osmotic pressure of the plasma proteins. Bodansky also called attention to the importance of the electrolytes, particularly the sodium ion, in water retention.

O. W. and Van S. Smith have shown that estrogen formation and excretion is enormously increased in the latter half of pregnancy. Thorn and Engel pointed out that estrone, estradiol, and progesterone have a well defined action on mineral metabolism, leading chiefly to a retention of sodium and water.

Madden summarized the present attitude towards the importance of adequate protein nutrition in the following statement: "Many hazards of protein malnutrition are now recognized. Some of these are increased susceptibility to infection, lowered resistance to toxins, impaired ability to heal wounds. Some of these hazards are known to arise after brief periods of fasting. It is, therefore, desirable to insure an adequate intake of protein."

METHODS AND RESULTS

This study was inaugurated to determine the answer to two related propositions: (1) the effect of food rationing on the serum protein level of the blood in pregnancy, and (2) the relation of the serum protein level to edema in pregnancy.

The ideal method of conducting the study

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would have been to follow the patients throughout pregnancy. The variable of time during pregnancy when the patient presented herself prevented this, and it was decided to make determinations on the blood between the fifth and ninth month of gestation.

No patients with intercurrent disease were included in the program. Even those with varicosities, albuminuria, and hypertension in any degree were excluded.

When blood for serum protein determination was drawn the patient was checked for edema. When none was present, the patient was tagged "zero" edema. When demonstrable edema was present, the patient was put on a salt free diet and told to return in one week, at which time the presence or absence of edema was noted, and if present, the "grade." All patients were then put on a high protein diet and were not graded again for edema for purposes of this study. All patients were graded for edema between 1 and 5 o'clock in the afternoon.

The serum protein was determined by the copper sulfate method. The tests were made in two laboratories which employed standard techniques, and no appreciable difference in the results of the two was noted.

Ninety-nine per cent of the women were Caucasian in origin and from the American middle class.

For study relative to the effect of food rationing they were divided into two groups. The first group was comprised of those studied during food rationing and the second group were those seen after discontinuance of food rationing. The results are shown in table 1.

TABLE 1.—*Effect of Food Rationing on the Serum Protein Level of the Blood in Pregnancy.*

	Rationed	Unrationed
Number cases	184	193
Average age	24	24
Lowest serum protein level (Gm. per 100 cc. of blood.)	4.9	4.8
Highest serum protein level (Gm. per 100 cc. of blood.)	7.2	6.9
Average serum protein level (Gm. per 100 cc. of blood.)	5.95	5.95
Average hemoglobin (Gm. per 100 cc. of blood.)	13.1	13.2
Average corpuscular volume (% of whole blood.)	37	37
Average red blood cell count (Millions per cm. of blood.)	4.0	4.0

These results are considerably lower than Stander found as normal in pregnancy. They show that the average pregnant American woman, as exemplified by this group, was not detectably affected by food rationing during World War II.

After it was noted that food rationing had no appreciable effect, the entire series was divided into three groups. The first group comprised those with a "normal" serum protein of 6.0 Gm. per 100 cc. and above. The second group comprised all those with serum protein levels between 6.0 Gm. and 5.5 Gm. not inclusive. The third group comprised the cases with serum protein levels of 5.5 Gm. and below.

From this division it is clear that 5.5 Gm. per 100 cc. of blood was selected as the critical level below which edema should theoretically occur. This figure was chosen instead of using Dieckmann's figure of 5.3 Gm. because all my work was done in a semitropical climate, and Youmans has shown that edema occurs more readily in such a climate.

The results are shown in table 2.

TABLE 2.—*Serum Protein Levels and Edema in Pregnancy.*

	Group 1*	Group 2*	Group 3*
Number cases	196	110	71
% total cases	52.7	29	19
Average age	24	24	24.8
Highest serum protein level (Gm. per 100 cc. of blood.)	7.2	5.97	5.5
Lowest serum protein level (Gm. per 100 cc. of blood.)	6.0	5.52	4.5
Average serum protein level (Gm. per 100 cc. of blood.)	6.29	5.6	5.26
No. with edema	16	33	55
% with edema	8	30	78
Average hemoglobin (Gm. per 100 cc. of blood.)	14.1	13.0	12.2
Average corpuscular volume (% of whole blood.)	37.3	37	36.5
Average red blood cell count (Millions per cm. of blood.)	4.0	4.0	3.96

*Grouped according to serum protein per 100 cc.: 1=6.0 Gm. and above, 2=60 Gm. to 5.5 Gm. not inclusive, and 3=5.5 Gm. and below.

EDEMA GRADING

As implied previously, patients were "graded" as to the amount of edema present. This grading was as follows:

Graded 1+ when there was a slight puffiness of the ankles in the afternoon and none in the morning but a tightness of rings in the morning.

Graded 2+ when there was a slight pitting edema and perhaps puffiness of the eyelids, but all edema of the extremities disappeared after a night's rest.

Graded 3+ when there was marked pitting edema to the knees, difficulty with shoes, stiffness of the knees, and edema persisted after a night's rest.

Graded 4+ when there was marked and deep pitting edema, generalized body swelling and particularly in the face, and difficulty in walking due to stiffness of the knees.

On the basis of this grading process, the patients in groups 1, 2, and 3 (divided ac-

TABLE 3.—*Severity of Edema Shown by Pregnant Women with Varying Serum Protein Levels.*

Edema	Group 1 No. Cases	Group 1 %	Group 2 No. Cases	Group 2 %	Group 3 No. Cases	Group 3 %
1+	13	6.5	33	30	40	57
2+	3	1.5	0	0	12	17
3+	0	0	0	0	2	3
4+	0	0	0	0	1	1.4
Total	16	8	0	30	55	78.4

cording to serum protein levels) showing edema were divided as to the amount of edema as shown in table 3.

The series was also divided as to parity but no appreciable difference in findings was noted, there being 205 primiparas and 172 multiparas.

DISCUSSION

As already noted rationing of food was not as great a factor in serum protein levels in pregnancy as dietary habit.

Stander gave 6.5 Gm. per 100 cc. of blood as the average during pregnancy. My series of 377 cases averaged 5.95 Gm. The highest serum protein level found was 7.2 Gm. and the lowest was 4.5 Gm. Only 52 per cent of my cases had a serum protein level of 6.0 Gm. or above. Seventy-one cases or 19 per cent had a blood serum protein below the critical level!

The hemoglobin level was found to be intricately tied to the protein level, falling gradually as the serum protein level falls. This corroborates findings of Bethell, Youmans, and others. The hematocrit, or corpuscular volume, determination and red blood count were not appreciably affected. Edema of pregnancy is shown to vary in inverse proportion to the serum protein level.

An attempt was made to remove the sodium ion as a factor in the edema by salt deprivation for one week before edema was graded. However, salt being such a universal food constituent and human nature being what it is, salt probably created a small error in the series. Also, no way is as yet known to neutralize the electrolyte-like action of the high hormone levels found in pregnancy; nor, for that matter, the similar action of the adrenal hormones.

Realizing the presence of these other factors in edema formation and assuming that hypoproteinemia edema does not occur with a serum protein level of 6.0 Gm. per 100 cc. of blood or above, there is an 8 per cent error in the calculations.

By taking this into consideration there is an even more striking comparison of the three groups. Group 1 would then show "0" edema; group 2, 24 or 21.2 per cent; and group 3, 49.5 or 72.3 per cent.

Only total serum protein determinations were made for two reasons: (1) it is always the albumin fraction which is appreciably lowered and it is this fraction which accounts for the edema through change in osmotic tension and (2) wartime shortage of laboratory technicians.

SUMMARY

1. A group of 184 cases studied during food rationing was compared with 193 cases studied after food rationing was discontinued. No difference in blood serum protein levels was found.

2. Only 52 per cent of an average group of American women had a total serum protein level that could be considered within normal limits.

3. Of this group 19 per cent had bodies dangerously depleted of proteins and were not good candidates to bear large families of strong, healthy children.

4. After elimination of all controllable factors, 8 per cent of the normal protein group had some edema, usually mild; 78.4 per cent of the group frankly deficient in protein had edema and a large percentage of these women had severe swelling.

5. After eliminating as an error the 8 per cent in the "normal" serum protein group showing edema and adjusting for this error in the other groups, patients with serum proteins between 6.0 Gm. and 5.5 Gm. per 100 cc. of blood showed 21.2 per cent edema, and the group with serum protein levels of 5.5 Gm. and below showed 72.3 per cent edema.

6. Hemoglobin determinations were found to fall with the serum protein level.

7. Hematocrit determinations and red blood cell counts did not seem markedly affected.

8. Parity seemed not to alter findings.

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ABSTRACT OF DISCUSSION

Dr. Ralph Luikart, Omaha, Neb.: The author has given a concise report of his observations of the relation of serum protein level to pregnancy edema and the effect of food rationing in 415 pregnancies. The report closely ties in with the numerous articles of recent years setting forth additional reliable clinical evidence of the value of controlled nutrition during pregnancy. It is by such clear-cut observations based on clinical and laboratory research that we can best interest physician and patient and thus obtain the type of cooperation so necessary to improve dietary regimen.

The public has become much better informed in regard to the value of and need for protein. This phase of a proper dietary system has been brought to the attention of the American people by the Council on Foods and Nutrition of the American Medical Association. Dietary practices of not only the public but the military as well have seen great progress as the result of medical research. During World War II evidence of nutritional edema outside of prison camps was practically nonexistant in comparison with the record of World War I. This clinical evidence has encouraged research which vastly strengthened our present knowledge of the value of proteins in the human diet.

I believe that food rationing in the United States during World War II made many Americans more diet conscious. Actually, paradoxical as it may seem, as a result of the meat shortage many persons came to appreciate the value of protein. This fact alone may account for the lack of dietary disturbance from rationing during World War I.

The author has shown that if a person has no organic disorder which prevents the absorption and utilization of proteins, the serum protein level can be brought up to and even surpass the critical level of 5.3 Gm. per 100 cc. of blood and the albumin fraction raised to or above 2.9 Gm. per 100 cc.

We have come a long way from the era when proteins in general and meat in particular were condemned as poisonous in the event of a trace of albumin in the urine.

ARTHRITIS AND RHEUMATISM FOUNDATION

A national foundation to promote the study of arthritis and rheumatic conditions has been organized under sponsorship of the American Rheumatism Association in cooperation with the National Arthritis Research Foundation, the Detroit Fund for Crippling Diseases, and others, reports the July 24 issue of *The Journal of the American Medical Association.* Medical policies and activities will be directed by a medical and scientific committee, and organization will be along the lines of such groups as the American Cancer Society and the National Foundation for Infantile Paralysis. Objectives of the Arthritis and Rheumatism Foundation include surveys of the problem, graduate education of the medical profession, education of the public, research fellowships, and improved care for those with rheumatic disease. Dr. Paul Holbrook, Tucson, Ariz., is president of the foundation.

ANTIBIOTIC DRUGS

THEIR USES AND ABUSES

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The introduction of the sulfonamides and antibiotics into the physician's armamentarium of drugs has resulted within the past decade in a miraculous advance in the treatment of infectious diseases. The sulfonamides are chemotherapeutic agents, and since they are so well established and the literature on them is so voluminous, they will not be considered in this discussion.

An antibiotic drug, or antibiotic, is a chemical instrument of antibiosis: an inhibitory substance, or antibacterial substance, produced by and obtained from microorganisms. The field of antibiotics is so large that only the two most commonly used drugs, penicillin and streptomycin, will be discussed here. Both of these drugs, and especially streptomycin, are comparatively new, but the literature on them is profuse, with many articles and ideas on their use appearing in almost every new medical publication.

PENICILLIN

Penicillin is without doubt one of the greatest therapeutic agents ever developed. It has a powerful effect against a great many bacteria and yet is comparatively nontoxic to man. Every physician is familiar with penicillin and its use, but with a drug as important as this one is in our daily practice, it is well to review occasionally the facts pertaining to it.

Penicillin is exceedingly effective for staphylococcic infections, hemolytic and anaerobic streptococcic infections, clostridial infections (as an accessory to vigorous surgical treatment and as a specific antiserum in gas gangrene and malignant edema), pneumococcic infections, gonococcic infections, meningococcic infections, bacillus anthracis infections, and bacterial endocarditis due to susceptible organisms.

It is effective in the following diseases, but its final position is not definite: syphilis, leptospirosis, Vincent's infections, rat bite fever due to streptobacillus moniliformis, actinomycosis, and diphtheria (as a supplement to antitoxin).

Keefer[10] calls penicillin the drug of choice in all staphylococcal infections, in all pneumococcal infections, in hemolytic streptococcal infections, in gonorrhea and syphilis, and in subacute bacterial endocarditis due to nonhemolytic streptococci.

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The introduction of penicillin in oil and beeswax has added greatly to the ability to treat ambulatory patients, and patients in the home where proper nursing facilities are not available. One injection of 300,000 units of penicillin in oil and beeswax per day will be sufficient for most infections. If the nature of the infection is such that a higher blood level is desired over the twenty-four hour period, 1 injection of 600,000 units or 2 injections of 300,000 units given at twelve hour intervals may be used. There is probably a little more hypersensitivity following use of this preparation than following use of the plain solution, and there may be an occasional abscess following its use.

The introduction of buffered tablets of penicillin for oral use has been another advance. Penicillin is absorbed well from the digestive tract, but the acidity of the stomach tends to destroy the drug. It is believed, therefore, that to secure a satisfactory blood level of penicillin by oral administration, 3 to 5 times the parenteral dose must be given. There is general agreement[2, 10, 15, 16] that this form of penicillin is satisfactory for the treatment of less severe infections, or for completing the treatment of a more severe infection after it has first been brought well under control by penicillin parenterally administered. In the more severe or dangerous forms of infection penicillin parenterally should be used.

No general routine dosage schedule for penicillin can be set up as infections by different organisms, and at times by the same family of organisms, differ greatly in their susceptibility to penicillin. In general, it may be said that the best policy in infections susceptible to penicillin is to attack the infection with massive doses at the start and maintain that dosage of penicillin which will bring the infection under control as quickly as possible. Fortunately, the supply of penicillin is now ample, and is not toxic to man in large doses. Apparently the maximum tolerated dose for penicillin has never been determined. Numerous accounts appear in the literature where several million units of penicillin have been given daily, and Keefer[11] mentioned a case where a child 3 years of age received as much as 100,000,000 units of penicillin a day for a period of three weeks without showing any signs of intoxication. Clinical experience, the nature of the infecting organism, and observation of the given case as it progresses will largely determine the dosage of penicillin to be employed. It will be necessary at times to use larger than average dosage to control a given condition, or to combine penicillin and sulfonamide in its treatment.

Gonorrhea is probably one of the most susceptible of all infectious conditions to penicillin. It will nearly always respond quickly, often within from fifteen to twenty-four hours, to 200,000 units of penicillin parenterally, with the dosage schedule highly optional. An occasional case may require larger doses. Penicillin in oil and beeswax[3, 8] is a handy form of the drug to use in this condition. Oral penicillin is now being used in treating this disease, but is probably not so reliable as parenteral administration. It is believed that all patients treated for gonorrhea should have a careful follow-up, including serologic blood tests monthly for three months, to guard against masking a case of syphilis by the penicillin administered to cure the gonorrheal infection.

In meningitis, from 30,000 to 50,000 units, or more, of penicillin parenterally each three hours plus 1 or 2 intrathecal injections daily of 10,000 units of penicillin in 10 cc. of physiologic saline solution will prove satisfactory against susceptible organisms. The intrathecal injections of penicillin must be employed because penicillin does not pass readily from the blood stream into the spinal fluid. It is believed that the penicillin solution to be injected intrathecally should never contain more than 1,000 to 2,000 units per cubic centimeter because of possible danger of irritation to the central nervous system. In meningococcic meningitis the schedule given above is effective. There is some medical opinion that sulfadiazine is the drug of choice in treating this condition. The main objective of general practitioners, however, is to give patients a quick, uncomplicated recovery. In a condition which shows the mortality and morbidity of meningococcic meningitis, it seems to me that the best procedure is to combine the two methods of treatment. I have seen several cases of meningococcic meningitis treated by the combination of sulfadiazine and penicillin, all of which were cured promptly without sequelae.

Penicillin is of great value in treating urinary tract infections due to susceptible organisms such as staphylococcus albus and aureus, streptococcus fecalis, hemolyticus, and viridans, Neisseria gonorrhoeae, and diphtheroid bacilli. The average dosage is 30,000 units every three hours until the infection is controlled. However, it must be remembered that this treatment does not obviate the necessity for adequate surgery where indicated, removal of foreign bodies, and the establishment of a free flow of urine.

Everyone is aware of the miraculous re-

sults being obtained in treating pneumonia with penicillin. Penicillin is truly a wonder drug in combatting this disease, which not too many years ago showed a high mortality rate but which is now easily controlled. A dosage of 30,000 units every three hours is usually sufficient, but if the disease appears particularly severe or does not respond readily, larger doses should be given.

Empyema, infected joint cavities, or abscess cavities may be treated by first withdrawing any pus or fluid present and then instilling from 50,000 to 100,000 units of penicillin solution once or twice daily, in conjunction with parenteral penicillin where indicated.

Serious infections, with or without bacteremia, which are susceptible to penicillin should receive from 240,000 units of penicillin every twenty-four hours upward to a much larger dose by either intermittent intramuscular injections or continuous drip, depending on the apparent severity of the condition and the resistance of the organism.

Bacterial endocarditis calls for large doses of penicillin, from 500,000 units up to several million units per twenty-four hours, usually by continuous drip. The dosage here must be high and continued at high level for several weeks, first to control the infection and later to prevent relapse.

Penicillin has proved valuable in eye, ear, nose, and throat conditions.[9, 14, 18] These conditions respond well and usually heal rapidly without complications. The number of necessary mastoidectomies has been greatly reduced, but it must be remembered that a careful check on patients is necessary, and surgery must be performed where indicated. Careless use of penicillin may mask a progressing condition.

Penicillin has likewise proved of value in the field of surgery, but it must be remembered that penicillin is an adjunct to, and never a substitute for, good surgical judgment and procedure. Penicillin carelessly given may mask progressing surgical conditions with disastrous results. Garlock[4] called attention to the danger of penicillin therapy of acute appendicitis and acute cholecystitis. He reported the case of a man who was put on penicillin therapy in the hospital for acute cholecystitis. After four days, during which he seemed to be recovering nicely, operation revealed a perforated gallbladder with pericholecystic abscess.

Although sufficient time has not yet elapsed since the introduction of the drug to arrive at a definite evaluation of its final place in the treatment of syphilis, penicillin gives promise of effecting significant advance in the treatment of this disease. Reports[1, 5, 6, 12, 17] so far indicate that penicillin is effective in treating almost all forms and stages of syphilis. Its comparative lack of toxicity and ease of administration make it the outstanding method for rapid treatment. The acceptance of penicillin treatment by patients is better, so that more patients will probably complete this treatment than have formerly finished older types of therapy. The trend at present is toward larger total dosage in syphilis, so that most physicians advise 3,600,000 units, or more, for sero-negative primary cases, and 5,400,000 units, or more, for sero-positive primary cases, while patients whose disease is discovered in later stages receive even larger doses. There is still much discussion as to whether chemotherapy (metals) and/or fever therapy should be employed along with penicillin. Current reports seem to indicate that penicillin alone is effective in most cases if used in large enough total dosage; but, whether it is used alone or in conjunction with metallotherapy, it should be given in large total dosage as indicated. Care must be exercised in starting penicillin treatment, especially in later stages of syphilis, to avoid Herxheimer reactions.

Penicillin has been found useful in treating diphtheria, but the current opinion is that it should be used only in conjunction with antitoxin.

Penicillin is a relatively safe drug. Comparatively few reactions occur from its use. There is danger, however, of creating a sensitivity by its use, especially over a long period of time, or by using it topically or orally. It is poor policy, therefore, to use penicillin carelessly or needlessly and thereby risk making some patient sensitive to the drug, so that it will cause trouble later when needed for a serious condition. Reactions to penicillin are usually mild and of the allergic skin reaction type. These reactions may be immediate, in the first day or two, or delayed, appearing from one to as long as six weeks after treatment is started. Such reactions will usually respond well to antihistaminic preparations such as pyribenzamine or benadryl. In cases where the severity of the infection demands it, it is often possible to continue penicillin treatment of the reacting patient by controlling the reaction with benadryl. Some of the delayed reactions are of the serum sickness type. Some of the allergic reactions to penicillin can be severe, and it seems likely that with the widespread use and increased dosages now employed, more reactions will be seen, especially as more patients are sensitized to the drug.

STREPTOMYCIN

The introduction of streptomycin has been another great step forward in treating infectious disease. It is of particular importance because it is active against a number of organisms not affected by penicillin or the sulfonamides. In general it may be said that streptomycin is effective against the gram-negative bacilli.

Streptomycin has been found effective in the treatment of tularemia; Hemophilus influenzae infections; and urinary tract infections, meningitis, and bacteremia due to susceptible strains of Escherichia coli, Proteus vulgaris, Klebsiella pneumoniae (Friedlander's bacillus), Aerobacter aerogenes, Pseudomonas aeruginosa, or Mycobacterium tuberculosis.

It has been found more or less effective, but its final position is not definite, in tuberculosis, pneumonia due to Klebsiella pneumoniae, and peritonitis, liver abscess, cholangitis, endocarditis, chronic pulmonary infections, and empyema due to suspectible organisms.

It is of questionable value in brucellosis, typhoid fever, and Salmonella infections.

Streptomycin is administered dissolved in sterile pyrogen-free distilled water or physiologic saline solution. It is usually given intramuscularly or subcutaneously. The intravenous use of streptomycin is not advisable, for it is no more effective than the other two methods and may cause serious reactions. Streptomycin may be injected intrathecally in doses of from 50 to 100 mg. every twenty-four hours. A solution of .5 to 1 Gm. of streptomycin dissolved in from 20 to 50 cc. of saline solution may be instilled into the pleural or peritoneal cavity. Solutions of streptomycin, 500 mg. per 10 cc. may be nebulized and used for inhalation administration, using 1 cc. of the solution every two or three hours. When streptomycin is given orally, it is not absorbed in sufficient amount to be of any value systemically, but is effective against susceptible organisms in the gastro-intestinal tract. Streptomycin solutions containing from 250 to 500 micrograms per cubic centimeter may be used for topical application where indicated.

The dosage of streptomycin required is extremely variable, and there is no single rule for its determination. It must be remembered, however, that even susceptible organisms tend quickly to build up a fastness, or tolerance, for the drug, and a sufficiently large dosage must be given to overcome the organism and bring the infection under quick control. All authorities stress that both before and during the use of streptomycin the infecting organism should be definitely identified and its susceptibility to streptomycin accurately measured.

Tularemia has been effectively treated with streptomycin.[11] The dosage advised is from 480 mg. to 1 Gm. daily in divided doses every three or four hours for from five to seven days. In more severe types of the disease, it may be necessary to give as much as 2 Gm. daily for seven days.

The use of streptomycin[13] has marked a distinct advance in the treatment of meningitis caused by the gram-negative bacilli and by tuberculosis. The most common condition occurring in this group is meningitis caused by Hemophilus influenzae. Streptomycin appears to be the treatment of choice and is capable of greatly reducing the mortality rate of this condition. Where the disease is particularly severe, treatment is started late, or the infecting organism shows increased resistance to streptomycin, sulfadiazine should be added to the treatment. Depending upon the age of the patient, the average dosage of streptomycin for meningitis caused by gram-negative organisms is from .5 to 2 Gm. per day given intramuscularly in divided doses every three to six hours, plus from 25 to 100 mg. once daily injected intrathecally for from seven to nine days. Streptomycin seems to have arrested the disease in some cases of tuberculous meningitis where treatment has been continued for a period of about four months. The incidence of neurologic damage in patients recovering from this disease is high, but at least some patients have recovered on this treatment from a condition which was in the past uniformly fatal.

Streptomycin is proving effective in treating urinary tract infections caused by susceptible organisms. It is of particular value because it is effective against a number of organisms which do not respond to sulfonamides or penicillin. The average daily dosage is 1 to 3 Gm. in divided doses intramuscularly every three hours for from five to seven days. In more severe infections, larger dosage of streptomycin may be called for. Again it must be remembered that most organisms tend to develop fastness to streptomycin rapidly unless it is given in sufficient dosage. Better results have been reported when the urine was first alkalinized. In mixed infections, it may be advisable to combine penicillin and/or sulfonamide with the streptomycin treatment. Any surgical or urological procedure indicated should be carried out before or at the beginning of treatment with streptomycin, for foci of in-

fection must be attended to and any obstruction to the free flow of urine removed before the treatment with streptomycin will be of lasting success.

Bacteremia due to susceptible organisms is treated by the intramuscular injection of a total daily dosage of from 2 to 4 Gm. of streptomycin in divided doses every three hours for from seven to twelve days, depending upon the severity of the infection and its response to therapy.

The final place of streptomycin in the treatment of tuberculosis[7] has not been established yet because of the short time it has been in use. It has been tried in a number of cases of all types of tuberculosis, and so far the reports are encouraging. Streptomycin is used as an adjunct to the accepted methods of treatment. The exact dosage of the drug has not been definitely settled, but at present it is being given in daily dosage of from 1 to 3 Gm. intramuscularly in divided doses for about three or four months. One difficulty in treating tuberculosis with streptomycin is the toxicity of the drug in large doses over a long period of time.

Streptomycin therapy shows sufficient toxicity to indicate that it should be given carefully and with constant supervision. Most of the reactions seen are allergic and are comparatively mild in nature. They consist of drug fever, skin rashes, headaches, arthralgia, and myalgia. When given in too large doses, however, and over a long period of time (over ten to fourteen days), or to a patient with impaired renal function, the drug may cause toxic reactions of the eighth nerve, varying from temporary disturbances of equilibrium and tinnitus to permanent loss of hearing and vestibular function. This reaction can be annoying to the patient, as well as embarrassing to the physician, and must be constantly kept in mind. Of course, if streptomycin is being used as a life saving agent, the chance of having this reaction occur can well be accepted. Cases have also been reported in which the drug showed toxic effects on the kidneys, as indicated by casts and hematuria.

In treating an infection wiht streptomycin or with penicillin, the physician must be on the alert for the spontaneous occurrence of a new bacterial infection caused by organisms not susceptible to the agent being used, and due to introduction of a new bacterial agent or the overgrowth of organisms formerly present only in small numbers because of the altered bacterial flora.

Finally, it should be emphasized that neither penicillin nor streptomycin is effective against virus infections.

ABUSES

Many abuses exist in the use of the antibiotic and sulfonamide drugs. Some of these abuses can and should be remedied. Some of the abuses, questionably classed as such, will for various reasons continue to exist.

Probably the worst abuse of these drugs is the tendency to neglect making a definite, complete, and accurate diagnosis of the patient's condition or other determination of indications for the drugs before starting treatment. All too often the patient with an acute infection is simply given one of these drugs without much consideration of the cause of the condition and with nothing more than the hope that benefit may result. Many times patients are given penicillin or sulfonamide for a week following surgery or delivery simply because they show an elevation of temperature, and with no thought as to the cause. These drugs do not remove the responsibility for making a diagnosis but rather increase the need for accurate diagnosis of the etiology of a given condition, since they are specific drugs and are only of benefit in conditions caused by organisms susceptible to the drug used. It is true, of course, that extensive laboratory determinations are not always available to the average physician, but he may base the use of these drugs on scientific knowledge, clinical experience, and liberal use of "horse sense."

Another prevalent abuse of these drugs is their employment in trivial conditions and in conditions where they will be of no help. This not only is expensive to the patient and does not help his condition, but also may sensitize him to the drug so that it cannot be used in the future when he sorely needs it for some serious condition. This abuse is particularly common in the use of oral or topical forms of the drugs which lend themselves to abuse by physicians or to self medication by the patient.

It is a mistake to use these drugs without setting up and maintaining a proper dosage and accessory treatment schedule, and without supervision and precautions against complications. The patient may suffer harmful effects from overdosage. By insufficient or improper dosage the physician may be creating strains resistant to these drugs.

Another danger frequently encountered in the improper use of these drugs is the masking of undiagnosed conditions that were not adequately considered before, during, or after treatment. For example, it has been stated before that syphilis may be masked in treating gonorrhea with penicillin if

proper serologic tests are not made following the treatment.

It is true, of course, that physicians are forced into some of these abuses by public opinion. The public knows just enough about these drugs to feel that they will cure any condition and should be used in all cases. For instance, physicians know that penicillin is not of benefit in virus infections; and yet woe unto the physician who loses a case of virus pneumonia without having given the patient penicillin. The patient's family would demand it or a doctor who would give it, and, if it were not used, would forever feel, and loudly proclaim, that the patient could have been saved by its use.

SUMMARY

The paper reviews the indications, dosage, uses, and toxic reactions of the antibiotic drugs penicillin and streptomycin. The abuses of the antibiotic and sulfonamide drugs are discussed.

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ABSTRACT OF DISCUSSION

Dr. J. Edward Johnson, Austin: Dr. Cooper has emphasized the most important abuses of the antibiotics, which may be listed under the following headings: (1) improper indications, (2) wrong selection of drug for organism, (3) improper dosage or schedule, (4) neglect of indicated surgery or other accessory treatment, (5) neglect of precautions against complications, (6) neglect of danger of masked infections, and (7) neglect of danger of sensitization of patients.

He mentioned the possibility of masking concurrent syphilis by the use of penicillin in gonorrhea. The same danger exists in overlooking tuberculosis, lung abscess, or pulmonary malignancy. The first indication of tuberculosis may be frequent attacks of upper respiratory infection. Likewise the cough, fever, localized dullness, and expectoration of lung abscess may be mistaken for a small consolidation of pneumonia, and, worst of all, fatal delay can be provided by the same blunder in cancer of the lung.

Much of the confusion regarding the use of streptomycin in tuberculosis has been cleared away by the report of the Council on Pharmacy and Chemistry of the American Medical Association.* The following points should be emphasized especially:

1. Dosage should be no more than 1 Gm. daily.
2. Two doses of .5 Gm. each given twelve hours apart are as effective as any other schedule.
3. Best indications for using streptomycin are miliary disease, moderately advanced exudative lesions, early tuberculous pneumonia, sinus difficulties except for empyema, laryngeal ulcerative or granulomatous lesions, meningitis, and genito-urinary disease, especially of the bladder, posterior urethra, or seminal vesicles.
4. Early minimal or far advanced or fibroid types of lesions should not be treated with streptomycin.
5. Treatment should be terminated in a maximum of three months.

I think two steps properly and promptly taken will make unnecessary the use of penicillin in virus pneumonia, influenza, and other conditions known to be resistant to it because of the insistance of anxious relatives of the patient. First, a careful diagnosis should be made. Second, the family should be taken into the physician's confidence. A sputum analysis and a roentgenogram may be necessary to confirm the clinical impression, but if there is no indication of a complication by an organism sensitive to penicillin, the mortality from virus pneumonia and influenze is too low to justify surrendering the therapeutic responsibility to anxious laymen. To do so may be the means of masking a dormant surgical condition or the development of a complication not yet evident that could be diagnosed better without the antibiotic.

Finally, it should be remembered that in medicine no less than in mechanics, the precision tool does not replace the skilled worker but rather requires for its best application still higher degrees of skill. In the use of the antibiotics there is greater need for the fundamentals of knowledge and training in diagnosis and therapeutics than ever before. To fail in these skills is to become a mere technician unworthy of the tradition of American medicine.

*Annual Report of Committee on Therapy and Subcommittee on Streptomycin, J.A.M.A. 135:641-643 (Nov. 8) 1947.

HISTAMINE THERAPY OF MIGRAINE

Histamine is valuable in preventing and treating migraine headache, report Dorothy Macy, Jr., and Bayard T. Horton, physicians of the Mayo Clinic, Rochester, Minn., in the July 24 issue of *The Journal of the American Medical Association.* In a study at the Mayo Clinic from 1937 to 1946 histamine was given by injecting beneath the skin and by dripping into the veins. "The greatest improvements occurred among the patients receiving histamine by both routes," the article points out.

Of 144 patients 98 showed 25 to 100 per cent improvement. However the treatment is not a cure, the physicians emphasize.

SYPHILIS FROM THE GENERAL PRACTITIONER'S STANDPOINT

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The general practitioner is the "first line of defense" against syphilis. It is therefore highly important that general practitioners keep well informed and alert on this rather common but potentially waning disease. I say "waning disease" because there is good evidence that syphilis can be eradicated in the United States if the carriers can be identified and made noninfectious, which modern treatment promises to do.

The Surgeon General of the U. S. Public Health Service, Thomas Parran, recently made a statement that venereal diseases could be wiped out in the United States in nine days if every man, woman, and child took penicillin at the same time for nine days. This is a bit optimistic, even if it could be done, especially in the states along the Mexican border, since much infection is contracted from exposures acress the border. Physicians of the United States would have considerable trouble in treating the population of Mexico. Until such time that the "Parran treatment" becomes practical, it will continue to be up to the general practitioners to diagnose and control this infection by treatment which is practical and efficient.

The Venereal Disease Division of the U. S. Public Health Service report shows that only 25 per cent of those with early syphilis complete the minimum protective treatment when arsenicals and heavy metals are used, but 99 per cent who start penicillin treatment complete the course. This report also estimates that about three million persons in the United States have syphilis, in spite of the extensive educational program of the public health agencies which has been carried out since World War I.

DIAGNOSIS

The importance of early diagnosis and treatment in syphilis is self-evident when attention is directed to the increased percentage of cures if treatment is instituted before the case becomes sero-positive. Recurrence in the sero-negative case with a positive darkfield with penicillin treatment is practically nil as compared to recurrences after the blood becomes positive or the disease has reached the secondary stage. As no treatment should be started in suspicious primary lesions until syphilis is proved, every general practitioner should have available competent laboratory service for darkfield examinations. The more convenient this service, the fewer primary lesions will be missed. As it is not practical in general practice to do darkfield examinations, a personal contact with a competent pathologist or bacteriologist is important in order to be sure the reports are trustworthy. I sometimes question the ability of some commercial laboratories for this important diagnosis. Serologic tests are less important as they can be checked and rechecked without too much loss of time.

The diagnosis of primary syphilis is often missed by doctors because of a "Pollyanna" attitude toward a genital lesion, probably the result of a hesitancy to worry the patient about such a "nasty" disease. This attitude is, of course, inexcusable as physicians should be scientific rather than consoling in their approach to the patient.

Among the most complex situations which physicians encounter when doing routine serologic tests are the so-called false positives which are occasionally found. While these are supposedly common, in general practice I think they are rather rare because general practitioners are not so much concerned about Kahn and Kolmer tests on patients with malaria or any of the acute infectious diseases which some authorities claim greatly increase the percentage of biologically false positive reactions. However, general practitioners do occasionally find positive blood reactions without clinical evidence or past history of syphilis which tax their clinical judgment in determining the course of management. It is consoling, however, that a positive serologic blood test does not constitute an emergency for treatment unless accompanied by clinical evidence of syphilis. Time will usually settle the question by repeated tests. It is unfair to the patient to start treatment for syphilis on only one positive Kahn test unless other evidence of syphilis is present.

The cases of late clinical syphilis with negative bloods are not such a problem as they are seldom infectious and anti-syphilitic treatment does not have too much to offer. This is especially true in debilitated "burnt out" tabes, advanced cardiovascular syphilis, and late congenital syphilis.

TREATMENT

The treatment of syphilis is now in a new state of evolution and the last word is far from written. Before the advent of penicillin, physicians had a definite program to follow with the assurance that the patient was receiving the most effective and efficient treatment known. This procedure has been antiquated and the literature is full of new and varied schedules which are being tried and

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investigated to determine the most efficient for general use.

For the time being perhaps, the most modern and accepted schedule of treatment is that recommended by the United States Veterans Administration. This schedule, with classification of cases, is to be found in *The Journal of the American Medical Association*, August 30, 1947. In brief, this schedule uses only penicillin in primary, tertiary, and congenital syphilis and combines mapharsen and bismuth preparations with penicillin in secondary and secondary relapsing syphilis. The dosage in primary sero-negative syphilis is 3,000,000 units in seven and one-half days, given in sixty divided doses. In sero-positive primary, early and late latent, tertiary, and congenital syphilis, except tertiary neurosyphilis, 6,000,000 units are given in fifteen days. In secondary and secondary relapsing syphilis, mapharsen and bismuth are given in addition to 6,000,000 units of penicillin. This treatment would be much more practical if penicillin in oil and wax could be used, and indications are strong that this can be done.

The treatment outlined for the Veterans Administration does not cover the problem of prevention of congenital syphilis. The prophylactic treatment of the syphilitic pregnant woman is the most important means of preventing congenital syphilis. The fact is reasonably well established that 2,400,000 units of penicillin, given in divided doses at three hour intervals, in early pregnancy of the syphilitic woman will prevent syphilis in the infant. The primary concern here is not to cure syphilis in the pregnant woman but to prevent it in the off-spring. Further treatment can be carried out for the mother postpartum. The mother should be observed throughout her pregnancy for evidence of relapse. If this can be shown by an increase in titer in the quantitative Kahn tests, she should be retreated with double the former dose of penicillin. This is especially valuable in the very early cases.

Only meager reports are available regarding the value of penicillin in the treatment of early congenital syphilis. However, authorities are of the opinion that response to penicillin is as good as to bismuth and arsenical therapy and should be favored. The dosage recommended is at least 100,000 units of penicillin per kilogram of body weight, administered intramuscularly in divided doses over a period of ten days.

With the modern treatment of syphilis, the follow-up treatment cannot be over emphasized. It will take years before the permanency of cures can be known. Authorities seem to be of the opinion that marriage should be postponed after infection for at least two years after the blood has become sero-negative and the patient has been free of clinical manifestations. At the end of this probationary period, the spinal fluid must also be negative. The psychologic problem of the patient infected with syphilis is great and one with which the rapid treatment centers do not concern themselves. Here the general practitioner can do immeasurable good in guiding the worried and apprehensive victim back to a normal and healthy citizen.

SUMMARY

The general practitioner is important in the control and eradication of syphilis. Early diagnosis and efficient treatment are the only means of control and permanent cure. Penicillin treatment is rapidly becoming the treatment of choice. The schedule recommended by the Veterans Administration is mentioned. Prevention of congenital syphilis by treatment of the syphilitic pregnant woman has become an established procedure and is the duty of the general practitioner.

ABSTRACT OF DISCUSSION

Dr. J. F. Lubben, Jr., McAllen: Since none yet possesses the "microscopic eye," a darkfield test, Frei test, and Ducrey vaccine are indicated in all penile-labial lesions.

Penicillin is too new definitely to evaluate, but it is today undoubtedly the most important drug in the treatment of syphilis. The person reviewing the literature can only be impressed by variations in schedules and dosages advocated. Significant is the fact that no doctor longer considers 1,500,000 units adequate in any stage. Constantly we read of larger dosages employed, and the pronounced tendency to use arsenicals and bismuth in conjunction with penicillin.

If nothing more, penicillin has certainly assured a larger percentage of patients securing what their doctors consider adequate courses of treatment than was true when only arsenicals and bismuth were used.

In the past two years I have adopted ambulant treatment, first using 300,000 units of penicillin in oil and wax daily for ten days and now using penicillin G. Each patient also receives a minimum of 5 doses of mapharsen and 5 of bismuth thereafter. Thus, a schedule varying from 3,000,000 units of penicillin in sero-negative to 4,500,000 or 6,000,000 units in secondary and early latent cases has given gratifying results as gauged by the quantitative Kahn test repeated every month or second month. Allergic and Herxheimer manifestations have been noted but twice.

GENERAL PRACTICE RESIDENCY IN NAVY

A new residency in general practice was inaugurated in Naval hospitals on July 1, announcement from Rear Admiral Clifford A. Swanson, surgeon general of the Navy and chief of the Bureau of Medicine and Surgery, indicates. Residencies will be for three years, during each year of which medical officers will receive six months of training in general medicine and related specialties and six months in general surgery and related specialties.

RAPID TREATMENT FOR SYPHILIS AT ROCKY MOUNTAIN HOSPITAL, OVERTON, TEXAS

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Rocky Mountain Hospital at Overton is one of the three rapid treatment centers for syphilis located in Texas. It is operated by the Texas State Department of Health under Dr. George W. Cox, State Health Officer, in cooperation with the U. S. Public Health Service. This hospital primarily serves forty-six counties in the area; however, it will accept patients from any part of Texas. The purpose of the hospital is to help private physicians and health officers in caring for indigent patients in need of treatment for syphilis. The patients are furnished the entire cost of their food, lodging, and hospitalization and are provided certain transportation facilities. Only those patients who are nonpsychotic and ambulatory are accepted for treatment. Other venereal diseases such as granuloma inguinale, lymphogranuloma venereum, and chancroid infection are also accepted for treatment in the hospital. Patients suffering from gonorrhea are not accepted except in connection with other venereal disease as it is considered that gonorrhea can be treated just as well on an out-patient basis.

During the last fiscal year there were 5,416 patients treated in this hospital, of whom 1,340 were referred by private doctors and 4,076 were referred by health clinics, city courts, health officers, and representatives of the Venereal Disease Division of the State Health Department.

The average stay in the hospital is ten days. Every ten days the various health units and clinics are notified that patients will be returned to them and are requested to have other patients ready for transporting to the hospital. A close transportation schedule is maintained throughout this area for cities and towns of any size, and the doctors in the cities are acquainted with the time that the busses and station wagons will arrive to pick up their patients.

The morale of the patients is kept at a high level. The best quality of food is furnished them. They have recreational facilities such as baseball, softball, movies, and lectures. Church services are held at frequent intervals. The abhorrence that is usually associated with the word syphilis is being gradually destroyed. The idea that the patient is being treated in a penal institution or quarantine hospital is being discouraged. Therefore, when the patient leaves this hospital and returns to his home, he acts as an emissary of good will. As a result many patients come to the hospital who otherwise would not have been brought to treatment.

One of the most important positions at the rapid treatment center is that of the interviewer who is responsible for interpretative interviewing, education regarding venereal diseases, eliciting information about contacts from patients, and obtaining other factual material that will assist the field workers in the proper follow-up of infectious syphilis. To aid in this program moving pictures on venereal diseases are frequently shown to the patients and illustrative pamphlets are distributed. The patients are lectured individually and in groups and every effort to obtain information regarding contacts is made by the interviewer. A good interviewer should produce at least three contacts per patient. After a general meeting, each primary, secondary, and early latent patient is called individually and consulted about contacts, after he has been assured that this conversation is strictly confidential. Some patients talk fluently, but others are reluctant and suspicious and require tactful handling. It is the aim of the hospital's educational program not only to stimulate, but to indoctrinate the patient with facts regarding venereal diseases that he may in turn act as a source of education among his associates upon his return to his community.

Patients when admitted to the hospital are supposed to have two positive serologic tests for syphilis done by the referring agent and noted on their admission forms. Quantitative Kahn tests are done on all patients upon admission to the hospital. Darkfield, Ducrey, and Frei tests and smears for granuloma inguinale are done on all patients with open and suspicious lesions.

TREATMENT SCHEDULES

The treatment schedules are subject to change from time to time as more approved treatments become available. Treatment has recently been changed from a three hour to a two hour schedule wherein 40,000 units of penicillin are given every two hours and no mapharsen or bismuth is employed. The treatment time in the hospital is shortened approximately two days.

Primary, secondary, early latent, and late latent syphilis patients are given 3,400,000 units of penicillin administered in doses of 40,000 units every two hours for 85 injections, over a period of seven and one-twelfth days.

Congenital syphilis in patients under 50 pounds of weight is treated with 20,000 units of penicillin every two hours for 85 injections

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over a period of seven and one-twelfth days. Patients of over 50 pounds with congenital syphilis are given 40,000 units of penicillin every two hours for 85 injections, a total of 3,400,000 units of penicillin, over a period of seven and one-twelfth days.

Central nervous system (asystematic) syphilis is treated with a total of 6,000,000 units of penicillin in doses of 40,000 units every two hours for 150 doses extended over a period of approximately twelve and one-half days. A spinal puncture is made six to eight months after rapid treatment is received, since it may take from one to three years for spinal fluid to become normal. A spinal fluid examination is recommended once every twelve months.

Pregnant syphilitic women are accepted up to seven and one-half months and are given 4,000,000 units of penicillin, administered in doses of 40,000 units every two hours for 100 doses over eight and one-third days.

Late cardiovascular syphilis is not treated in this hospital. Other complications are treated routinely according to the above schedule. Proved contacts of infectious syphilis are treated. However, no diagnosis of syphilis is made. Such patients are carried as syphilis contacts or marital contacts.

Chancroid.—A skin test resulting in a swollen area with a diameter of 6 mm. or less is considered negative for chancroid. Lymph nodes are unilocular, ulcers are painful and dirty. Genital ulcers not proved to be other venereal diseases may be considered as chancroid. Patients with chancroid are given 4 Gm. of sulfathiazole per day until healed. The minimum amount of 40 Gm. is usually a total dosage. They are given one week's supply of the drug upon discharge. These patients are advised to have serologic tests for syphilis done three months after leaving the hospital.

Lymphogranuloma Venereum. — A Frei skin test is considered negative for lymphogranuloma venereum if the area of swelling is less than 6 mm. in diameter, Patients with this disease are given sulfathiazole, 4 mg. daily until healed. They are given sulfathiazole for twenty-one days and a seven days' supply of the drug to take home. There is no follow-up on lymphogranuloma venereum, but the patients are requested to report to their clinic at frequent intervals.

Granuloma inguinale.—Several smears for Donovan bodies are done in cases of suspected granuloma inguinale. Treatment of the disease consists of streptomycin, 4 Gm. daily in divided doses every four hours for five days, a total of 20 Gm. The lesions are again examined for Donovan bodies. If the Donovan bodies are still present, treatment is continued for an additional five days. The patients are kept under observation until complete epithelization has been noted. This process usually takes an average of from fifteen to twenty days.

Fuadin is also used in treating granuloma inguinale. The dosage is 1.5 cc. intramuscularly the first day, 3.5 cc. the second day, 5 cc. the third day, then 5 cc. every third day until 40 cc. are given. The procedure is repeated if necessary.

There have been few reactions following the above mentioned schedules. Herxheimer reactions have been rather frequently noted. The most common reaction following the administration of penicillin is urticaria, which readily responds to benadryl. BAL has been used on several occasions for arsenical dermatitis when the prescribed schedules included arsenic and bismuth. The reactions usually disappear within forty-eight hours. Headaches occurring after spinal punctures are frequent. Forced fluids, bed rest, and intravenous glucose usually suffice. There have been several cases of uterine irritations in pregnancies. These seem to occur after 2,800,000 units of penicillin have been given. Treatment has been discontinued in a few cases. There have been no miscarriages, abortions, or premature births.

RETREATMENT

Patients are retreated if the titer level of their blood remains 16 Kahn units or above over a period of one year or if the titer of the reagin rises four times higher than the lowest point, using two dilutions. They are retreated for a relapse when a lesion occurs in a different location and is dark-field positive.

When a patient sends in a report of his blood test a quantitative Kahn test is always required. These reports are all answered. If there is an increase in the titer level of the patient's blood over a period of months, he is advised that further treatment is necessary. If the titer level of his blood is declining in an orderly manner towards negativity, he is advised that no further treatment is necessary at that time.

There are discrepancies in serologic interpretation which involve the rapid treatment centers. Patients, particularly those with late latent syphilis, who have received adequate treatment over a period of years are often transferred to the hospital for rapid treatment. Most of these patients are Wassermann-fast and their blood will continue to be positive probably as long as they live. Penicillin will not revert this type of blood to negativity. "Their blood is being treated and not the patient" (Moore). Likewise, patients are often returned to the hospital

within a period of several weeks after receiving rapid treatment because a qualitative blood test has been done and their blood is still positive. Their blood will continue to be positive to such tests for several months, sometimes eighteen months and longer. Primary and secondary syphilis are the first to revert to negativity, usually in from four to six months.

Until recently patients operating beauty parlors who had completed rapid treatment but still had positive blood tests were refused renewals of their licenses. This practice has been changed. Licenses will be issued by the Cosmetology Board upon certification of a physician that the patient is probably Wassermann-fast and has received adequate treatment and is now noninfectious.

Patients who have received rapid treatment and are having a follow-up blood test have been told that they need further treatment because their blood continued to be positive. The results of these tests are seldom forwarded to the rapid treatment center. Such patients usually do not have the money for further treatment, but they will turn up on their own accord at the rapid treatment center for further treatment. They are submitted to further serologic investigation, and in most instances it is found that the titer level of their blood is progressing toward negativity in an orderly manner and no further treatment is necessary. They are returned to their homes where the whole procedure will often recur. Patients are instructed to have quantitative tests every two, four, six, nine and twelve months after receiving rapid treatment. It is necessary for adequate follow-up that a quantitative test be done and the results be forwarded to the rapid treatment hospital.

For the rapid treatment center to be most effective it is recommended:

1. That quantitative Kahn blood tests be done on each patient who has received rapid treatment.
2. That the physician forward the results of quantitative Kahn tests to the rapid treatment center in order that the patient's card may be kept up to date.
3. That some method be evolved whereby indigent patients may receive blood tests in their own locality.

ABSTRACT OF DISCUSSION

Dr. R. S. Lloyd, Austin: The rapid treatment centers are considered one of the strong phases of the venereal disease program for the control of syphilis. Set up as they are now functioning, they remove from public contact cases of infectious syphilis, and the patients are quickly made noninfectious. Opportunity is given for repeated interviews with the patients that their contacts may be followed up for diagnosis and treatment. The programs of the centers educate the patient regarding the cause, the spread, and the ravaging results of the venereal diseases; they stress the importance to the patient of reporting to a doctor immediately if venereal disease is suspected, and the necessity of reporting to a doctor for post-treatment follow-up.

The rapid treatment center, by reducing the case holding of local clinics, permits the clinic personnel more time for interviewing, case finding, and diagnosis of new cases.

CARDIOLIPIN AND KOLMER ANTIGENS IN THE COMPLEMENT FIXATION TEST FOR SYPHILIS

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In 1941 Pangborn[14, 15, 16, 17, 18, 19] described the isolation of a phospholipoid from beef heart powder, designated as cardiolipin, which was serologically active in syphilis. Although this substance was found too feeble in antigenic activity to be used alone as antigen in serum tests for this disease, when sensitized with lecithin (also isolated from beef heart powder) and cholesterol, the mixture was found to be sufficiently antigenic. Since then it has been found necessary, however, to determine the amounts of cardiolipin, lecithin, and cholesterol to be employed as antigen in different complement fixation and flocculation tests.

CARDIOLIPIN ANTIGENS

In December, 1947, we determined the antigenicity and anticomplementary activity of 39 different combinations of cardiolipin, lecithin, and cholesterol as antigens in the Kolmer complement fixation test, along with their capacity for producing prezone reactions.[11] The results of this study showed that cardiolipin-lecithin-cholesterol combinations of 0.03-0.05-0.3, 0.03-0.05-0.6, 0.03-0.05-0.9, 0.6-0.05-0.6, 0.06-0.05-0.9, and 0.0175-0.0875-0.3 may be employed as antigens in dose of 0.5 cc. of 1:150 dilutions. In general terms, an antigen prepared of 0.03 per cent cardiolipin, 0.05 per cent lecithin, and 0.6 per cent cholesterol was preferred as a mixture of maximum sensitivity consistent with specificity in tests with sera and spinal fluids. Since then this combination has been employed in our routine tests and in the 1948 National Serologic Evaluation Survey.

IMPROVED KOLMER ANTIGEN

The original Kolmer antigen (a cholesterolized and lecithinized alcoholic extract of beef heart), described in 1922, was pre-

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pared by extracting 25 Gm. of beef heart powder with 200 cc. of ether, followed by extraction with ethyl alcohol and sensitization of the alcoholic extract with acetone-insoluble lipoids and 0.2 per cent cholesterol.[6] In 1935 an alternate method was described in which 30 Gm. of beef heart powder were extracted with 100 cc. of acetone for five days, instead of with ether as in the original method, followed by extraction of the tissue residue with ethyl alcohol and sensitization of the alcoholic extract with acetone-insoluble lipoids and 0.2 per cent cholesterol.[7] This change in technique was based upon the observation that extraction of beef heart powder with acetone prior to the alcoholic extraction tended to reduce the nonspecific activity of the antigen, which is also indicated by the fact that beef heart powder from which cardiolipin and lecithin are prepared is first liberally extracted with acetone.

Further confirmation of the advisability of thoroughly removing the acetone-soluble lipoids was supplied when in November, 1946, we were informed by Dr. George W. Cox that K. C. Knolle, serologist in the Bureau of Laboratories of the Texas State Department of Health, had observed that the anticomplementary effects of the antigen were still further reduced by washing the acetone extracted powder on the filter three times with acetone before the residue was dried, followed by extraction with ethyl alcohol and sensitization of the alcoholic extract with acetone-insoluble lipoids and 0.2 per cent cholesterol.

We have been able to confirm these observations although antigens prepared in this manner were found somewhat less sensitive in the Kolmer complement fixation test, indicating that the thorough preliminary extraction of acetone-soluble lipoids from beef heart powder not only reduces the incidence of nonspecific reactions, but the incidence of true syphilitic reactions as well. Furthermore and quite unexpectedly, antigens prepared of acetone extracted beef heart powder, followed by alcoholic extraction of the residue, have shown more prezone reactions with human sera and more falsely positive reactions with normal spinal fluids than the original Kolmer antigen in which beef heart powder was first extracted with ether followed by extraction of the residue with alcohol.

In 1939 Giordano and Carlson[3] observed that the sera of some guinea pigs apparently contains a substance which fixes or inactivates complement in the presence of antigen at refrigerator temperature, with the suggestion that each guinea pig serum employed as complement be subjected to preliminary testing before use in the Kolmer complement fixation test. These observations were confirmed by Kolmer and Lynch,[9] who thought this phenomenon was responsible for prezone or nonspecific complement fixation reactions sometimes observed in complement fixation tests, especially with spinal fluids. The investigations of Harris,[4] however, indicated that these nonspecific reactions were not due to the presence of a substance in guinea pig complement sera but apparently to substances that may be present in some antigens which we now think may have been acetone and ether-soluble lipoids. Boerner and Lukens[2] then found that nonspecific reactions with spinal fluids could be prevented by the addition of 0.2 cc. of a 50 per cent solution of egg albumin in saline solution, in the Kolmer complement fixation test, which was confirmed by Kolmer and Lynch.[10]

Under the circumstances we thought it advisable to return to the original method of preparing Kolmer antigen with two modifications, namely, (1) the thorough preliminary extraction of beef heart powder with acetone before extraction of the tissue residue with ether, followed by extraction with ethyl alcohol, and (2) the restoration of sensitivity lost with the removal of the acetone and ether-soluble lipoids by increasing the cholesterol content from 0.2 to 0.4 per cent. With this improved antigen we have found it unnecessary to pre-test complement. Furthermore, prezone reactions with human sera have been practically eliminated and it has been found unnecessary to use egg albumin for the prevention of falsely positive reactions with normal spinal fluids.[12]

The details of preparation are as follows:

1. Weigh out 30 Gm. of beef heart powder (Bacto beef heart, prepared by the Difco Laboratories of Detroit, is recommended).
2. Transfer to a flask fitted with a glass stopper or tin foil covered cork.
3. Add 100 cc. of chemically pure acetone.
4. Stopper tightly and mix thoroughly.
5. Keep at room temperature for two days, shaking briefly each day.
6. Filter through fat-free paper, with slight squeezing of the tissue, and discard the filtrate.
7. Transfer the residue to the flask, add 100 cc. of chemically pure acetone, stopper tightly, mix thoroughly, and keep at room temperature for two days, shaking briefly each day.
8. Filter through fat-free paper, with slight squeezing of the tissue, and discard the filtrate.
9. Dry the residue in the air until free of acetone and return it to a clean flask.
10. Add 200 cc. of ether, stopper tightly, mix thoroughly, and keep at room temperature for three days, shaking briefly each day.

11. Filter through fat-free paper with slight squeezing of the tissue.
12. Dry the residue in the air until free of ether and return it to a clean flask.
13. Add 100 cc. of chemically pure absolute ethyl alcohol.
14. Stopper flask tightly and mix thoroughly.
15. Store at room temperature for five days, shaking each day.
16. Filter through fat-free paper, with slight squeezing of the tissue.
17. Measure the filtrate and filter sufficient absolute ethyl alcohol through the tissue to make 100 cc.
18. Weigh out 0.4 Gm. of cholesterol and dissolve in 10 cc. of ether.
19. Add to the 100 cc. of alcoholic filtrate.
20. Shake thoroughly and place in a water bath at 55 C. for one hour to aid solution.
21. Allow to stand at room temperature for two days, shaking briefly each day.
22. Filter through fat-free paper.
23. Store the antigen at room temperature in the dark in a tightly stoppered bottle. Do not disturb any sediment which may be present.

As originally prepared, antigenic sensitivity was slightly increased by sensitizing with acetone-insoluble lipoids,[6, 13] but we now prefer to omit this step since the cholesterol has been increased from 0.2 to 0.4 per cent; otherwise, this increased sensitization may be accomplished as follows:

1. Steps 1 through 17 as above.
2. Save the ether extract used in the preparation of the antigen in steps 10 and 11.
3. Place in an evaporating dish and concentrate to about one-fifth volume.
4. Add from 3 to 6 volumes of acetone.
5. Mix and set aside overnight.
6. Remove supernatant acetone and store the residue of acetone-insoluble lipoids in the refrigerator.
7. Dissolve 0.4 Gm. of cholesterol and the acetone-insoluble lipoids in 10 cc. of ether.
8. Add to the 100 cc. of alcoholic filtrate; stopper tightly, and shake thoroughly.
9. Place in a water bath at 55 C. for one hour to aid solution.
10. Allow to stand at room temperature for two days, shaking briefly each day.
11. Filter through fat-free paper.
12. Store at room temperature in the dark. Do not disturb any sediment which may be present.

COMPARATIVE SENSITIVITY

In the 1944 National Serologic Evaluation Survey, Harris and Portnoy[5] stated that a cardiolipin antigen (0.03-0.05-0.3) had a sensitivity rating of 83.2 per cent and a Kolmer antigen a rating of 83.6 per cent in Kolmer complement fixation tests conducted with the sera of syphilitic donors; in our laboratory the Kolmer test had a rating of 85.5 per cent. In the 1946 survey, the Kolmer test conducted in our laboratory had a rating of 88.4 per cent, and the New York State Department of Health laboratory a rating of 85.0 per cent in a flocculation test conducted with cardiolipin antigen. In the 1947 survey, the Kolmer test conducted in our laboratory had a rating of 83.7 per cent while the VDRL slide flocculation test conducted with cardiolipin antigen had a rating of 85 per cent and the New York State Department of Health laboratory a rating of 75.0 per cent in a flocculation test conducted with cardiolipin antigen. Andujar and his colleagues[1] have recently reported that cardiolipin antigen (0.03-0.05-0.3) gave 74.4 per cent positive reactions with the sera of 3,855 syphilitic patients in the Kolmer complement fixation test, while Kolmer antigen gave 70.7 per cent positive reactions. In a series of comparative tests with cardiolipin and Kolmer antigens by Shaw[20] both yielded positive reactions with 467 sera, with 5 possible falsely positive reactions with both antigens; negative reactions were observed with both antigens with 416 sera.

In our laboratory, during the past three months, 592 sera have been tested with cardiolipin antigen (0.03-0.05-0.6) in dose of 0.5 cc. of 1:150 dilution and with improved Kolmer antigens in dose of 0.5 cc. of 1:600 dilution; 221 or 37.3 gave positive reactions with cardiolipin antigen, and 213 or 36.1 per cent positive reactions with Kolmer antigens. Under the conditions it appears that cardiolipin and Kolmer antigens are closely similar in antigenic sensitivity although the former may give from 1.0 to 1.5 per cent more positive reactions with the sera of syphilitic donors. In our laboratory, however, both antigens have given from 5 to 6 per cent more positive reactions with the sera of syphilitic donors than the Kahn standard test, but about the same percentage of positive reactions as the Mazzini test if + and ++ reactions are interpreted as positive.

COMPARATIVE SPECIFICITY

With the sera and spinal fluids of presumably normal nonsyphilitic donors, Kolmer complement fixation tests conducted with cardiolipin and Kolmer antigens have given practically 100 per cent negative reactions. Certainly this has been observed with improved Kolmer antigen during the past three months in our laboratory. Andujar and his colleagues[1] have observed similar results since both antigens gave only 0.031 per cent falsely positive reactions in routine tests with the sera of 11,623 presumably normal nonsyphilitic donors.

We have not had sufficient experience with comparative tests in malaria. Stout,[21] however, has reported that in multiple tests in a series of cases, Kolmer complement fixation tests employing cardiolipin antigen (0.03-0.05-0.3) gave 36 per cent positive or

doubtful reactions, while Kolmer antigen gave 19 per cent with an incidence of 51 per cent Kahn reactions, 45 per cent Mazzini reactions, and 26 per cent reactions with cardiolipin flocculation tests. Andujar and his colleagues,[1] in comparative tests with the sera of 31 cases, have reported positive reactions with 12 using Kolmer antigens and with 6 using cardiolipin antigens. We have likewise not had experience with the sera of presumably nonsyphilitic lepers, but from the results observed with flocculation tests with cardiolipin antigens in this disease, it is likely that the incidence of falsely positive reactions will be found somewhat lower than observed with improved Kolmer antigen.

In 12 cases of infectious mononucleosis falsely positive reactions were observed with cardiolipin antigen in 2, and in 1 using Kolmer antigen. In vaccinia, viral pneumonia, and upper respiratory tract infections the incidence of falsely positive reactions with cardiolipin antigen has been practically the same as observed with improved Kolmer antigen in complement fixation tests. Shaw[20] stated that cardiolipin antigen was more sensitive than Kolmer antigen in comparative tests with icteric sera in 5 cases of syphilis showing the presence of small amounts of reagin.

Under the circumstances it appears, insofar as the Kolmer complement fixation test is concerned, that the sensitivity of cardiolipin and improved Kolmer antigens in the serologic diagnosis of syphilis is closely similar; cardiolipin antigen may give a positive or doubtful reaction in occasional cases in which a negative reaction is secured employing Kolmer antigen, or the reverse may occur. With the sera and spinal fluids of presumably normal nonsyphilitic persons, both antigens have yielded almost 100 per cent negative reactions. In malaria, however, Kolmer tests conducted with cardiolipin antigen may be expected to give a lower percentage of biologic falsely positive reactions than Kolmer antigen; for this reason cardiolipin antigen is to be preferred in those districts where malaria is prevalent and endemic. In viral pneumonia, upper respiratory tract infections, vaccinia, and so forth, biologic falsely positive and doubtful reactions occur with both antigens although it is likely that their incidence may be somewhat lower in Kolmer complement fixation tests conducted with cardiolipin antigen than with the improved Kolmer antigen. Both antigens have likewise given about the same percentage of positive Kolmer complement fixation reactions with the sera of normal rabbits, although in comparative tests with the sera of 42 animals cardiolipin antigen gave stronger reactions in about 10 per cent. With either antigen, therefore, a special technique must be employed in Kolmer complement fixation tests with rabbit sera in order to avoid these falsely positive or nonspecific reactions.[8]

CONCLUSIONS

1. Kolmer antigen for use in the complement fixation test for syphilis has been improved by changes in the technique of its preparation.

2. Cardiolipin antigen in the Kolmer complement fixation test is slightly more sensitive than improved Kolmer antigen although the incidence of positive and doubtful reactions in this disease is closely similar with both antigens.

3. Both antigens give practically 100 per cent negative reactions in the Kolmer complement fixation test employing the sera spinal fluids of presumably normal nonsyphilitic persons.

4. Cardiolipin antigen probably gives a lower incidence of falsely positive and doubtful reactions in malaria than the improved Kolmer antigen and may be preferred in the conduct of Kolmer complement fixation tests in those localities where malaria is endemic and prevalent.

5. Both antigens give biologic falsely positive and doubtful reactions in leprosy, viral pneumonia, upper respiratory tract infections, vaccinia, and so forth, as well as with normal rabbit sera.

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LABORATORY ASPECTS OF CERTAIN TROPICAL DISEASES

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The worldwide dispersal of members of the American armed forces, and particularly their relation to the tropical zone, has stimulated a great deal of thought and discussion concerning the possibility of the implantation of exotic diseases into the United States. The evidence now available indicates that this threat has not been and probably will not be realized. However, because several hundred thousand Americans were personally exposed to diseases which are either absent from or rare in this country and because the airplane will increase traffic throughout the world, it is necessary that physicians constantly be on the lookout to detect and treat diseases which are, to a great extent, new to them. Since for the most part these diseases can be diagnosed with absolute assurance only by laboratory procedure, it will devolve on clinical pathologists to make the final diagnoses; it is hoped that the anatomic pathologist will rarely be needed.

VIRUS AND RICKETTSIAL DISEASES

A fairly large number of virus and rickettsial diseases were encountered in the armed forces; however, few persons, if any, arrived on these shores still suffering from these diseases. Epidemic typhus was most feared but it is not usually found in the tropics unless at high altitudes. The rarity with which it occurred was highly significant. In the diagnosis of the condition and its related infections, endemic typhus and scrub typhus or tsutsugamushi disease, the laboratory can contribute to the diagnosis by a test of the ability of the serum to agglutinate certain strains of bacteria of the genus Proteus. In epidemic and endemic typhus the serum of the patient frequently agglutinates Proteus OX19, while in scrub typhus the serum agglutinates Proteus OXK. Weak cross agglutination is sometimes present but the most significant finding is a rising titer during the course of the disease. Because in Rocky Mountain spotted fever and endemic typhus there is usually a positive agglutination test with Proteus OX19, the physician must be on guard to learn whether or not the patient formerly had one of these diseases as a result of which he still has a positive agglutination test. Marked interstitial myocarditis is always present in scrub typhus when death is due to the disease. Complement fixation has recently been successfully used by Irons, Murphy, and Wolfe[5] in the diagnosis of Q fever, but the test is not easy to perform.

The diagnosis, from a laboratory standpoint, of diseases of virus origin is laborious and requires facilities not usually available. For example, the specific identification of the viruses of psittacosis and yellow fever involve use of specific antigens for complement fixation or animal passage of the virus for diagnosis. Of course at necropsy the characteristic pathologic lesions of the liver are diagnostic of yellow fever.

RELAPSING FEVER

In certain tropical and subtropical countries the occurrence of relapsing fever caused by Leptospira is fairly common but the duration is self-limited and the chance of finding the disease in returned personnel is small. In Texas the disease is rather common in certain localities and no doubt the pathologists of this state are familiar enough with methods of diagnosis. The easiest and most direct laboratory examination is by staining a thick smear with Giemsa's stain. The slide should not be fixed, although ordinary thin smears stained by Wright's stain usually reveal the organism. These methods are more reliable than the darkfield method, which in blood examination is fraught with difficulties due to artefacts which resemble spirochetes. In large series of cases the stained slides reveal more positive findings than does the darkfield method.

MALARIA

By all odds the most important disease which is encountered in persons from the tropics is malaria. It is important to note that with all the agitation and writing relative to this disease in the past few years, there are many physicians and technicians who as yet have no idea what a so-called thick smear means and have never seen one, yet this is the most important diagnostic method available for the detection of in-

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fection by plasmodia. It is interesting that the thick smear method of diagnosis was devised by Ross in 1895 but was neglected for years until it was used in survey work in the tropics comparatively recently. The method was extensively used for survey and diagnostic work in World War II.

It is true that thin smears stained with Wright's, Giemsa's, or any similar stains will reveal plasmodia readily when present in large numbers and even when present in moderate numbers if a long and diligent search is made. As a matter of fact it is frequently necessary to study the parasite in thin films in order to identify the species. As a rule the thick smear represents a concentration of at least 100 times that in a thin smear, and examination of 150 fields, which can be done in from three to seven minutes, will furnish an adequate basis for reporting the slide negative if plasmodia are not found.

While the details of the method may be had by consulting the numerous papers on the subject, it is important to note the great stress laid on the matter of cleanliness of the slides and on the facts that several drops of blood should be used and that the area covered by the blood should be not greater than about 1 cm. in diameter. After thorough drying, the slide should be stained in an aqueous solution of stain which will lake the erythrocytes during the staining process. The stain of choice is Giemsa's. A description of the best method of preparation of the solutions may be found in a paper by Roe, Lillie, and Wilcox.[10]

All investigators in various references have indicated that the most disappointing accident that may happen in use of the thick smear method is the failure of the smear to stick to the slide. They imply that this catastrophe is caused by the use of dirty slides, contact of the slide with the patient's skin or staining before thorough drying. Several methods have been proposed for the actual making of the smear but no one implies that this phase of the procedure is critical. Some use a toothpick; others, like Krauss,[6] "with the corner of another slide spread the drops of blood to the size of a one cent piece by describing centrifugal circles." As a matter of fact, this is the critical stage in the process, and unless the blood can be made to adhere to the slide there is no value in the method. It is best to stir the blood well with whatever instrument is used so that the area of the glass under the drop is thoroughly *wet* with the blood. Krauss' method is excellent for this purpose and, if energetically carried out, will help to throw the infected cells to the periphery to which the search can be limited. Just what factors are involved in causing the blood to stick to the slide are unknown, but whatever they are, the process of stirring accomplishes the result.

Rather recently a number of papers have dealt with precipitin and complement fixation tests in which antigens made from plasmodia of animals other than man are used, but at present no such antigen is available for any use other than restricted investigative procedures. The thick smear is still the method of choice for routine use in diagnosis.

LEISHMANIASIS

One of the diseases which occurred in limited incidence in our armed forces was leishmaniasis of the cutaneous variety. In typical cases a smear made by scraping the edge of the ulcer will reveal Leishman-Donovan bodies if stained with one of the standard Romanovsky stains. In relatively long-standing cases and in those in which secondary changes due to bacterial invasion have taken place, it is best to resort to a cultural method as outlined by Packchanian.[9]

Sterile meat infusion agar, which contains 1.5 to 2 per cent of agar-agar, is cooled to 45 C. and about 20 per cent of defibrinated rabbit's blood is added, mixed well, poured into test tubes, and allowed to solidify in a slanted position. In order to obtain a large amount of water of condensation, that is, about 0.5 cc. per tube, the freshly prepared tubes of medium are first refrigerated for several hours and then warmed at room temperature. After incubation overnight to assure their sterility, the tubes of medium are stored in the refrigerator until ready for use.

In order to avoid contamination of the cultures with bacteria and molds, the lesions are painted with tincture of iodine and, after removal of the excess of iodine with alcohol, from 1 to 2 cc. of sterile isotonic solution of sodium chloride is injected into the bordering inflamed zone closely adjacent to the ulcerous center of the lesion. It is desirable to use a newly sterilized needle and syringe for each injection and to introduce the solution into different parts of the inflamed margin. Immediately thereafter a few drops of fluid are obtained by aspiration and each sample of the aspirated fluid is inoculated into separate tubes of the medium. The inoculated tubes are rubber-capped and kept at room temperature (about 25 C.) for about two weeks before they are examined for flagellates.

Smears made from cultures showing a growth of flagellates are fixed with absolute methyl alcohol and stained by MacNeal's tetrachrome or a combination of the Wright-Giemsa methods.

In the search for parasites in kala-azar, the blood of the patient may be cultured by the method just described or smear preparations may be made from the bone marrow or from the spleen after splenic puncture; cultures of aspirated material from the bone marrow or spleen also may be made. The pathologist should be on guard in examining smear preparations lest he be confused by the appearance of yeasts in the smears

and, more particularly, by the presence of Histoplasma. These latter organisms greatly resemble Leishmania and many errors have been made by mistaking these two forms.

FILARIASIS

It has been noted by all those who have studied the patients who contracted filariasis during the war that there is little to be gained by further study of the blood of these patients with a view to finding microfilaria. These organisms appeared in small numbers in only a few patients. However, if patients are suspected of having filariasis the only way a positive diagnosis can be made is by finding the adult organisms in a lymph node by biopsy or by finding the microfilaria in the blood. Occasionally a roentgenogram may show a calcified adult organism in a lymphatic plexus. If the infection is heavy, the organism may be seen in a drop of capillary blood, either stained or unstained. The thick smear technique used in the diagnosis of malaria is satisfactory. If the organism is suspected of being Wuchereria bancrofti the blood should be taken after 10 p. m. and before 4 a. m., if the thick or thin smear method is to be used. The best method of procedure, however, is to use venous blood taken during the daytime according to the following method:

> Two cc. of blood are withdrawn and divided equally into two 15 cc. centrifuge tubes which contain 4 per cent solution of acetic acid. The tubes are immediately shaken vigorously; this is the important step in the procedure and if the tubes are not vigorously shaken the erythrocytes will not be completely laked. The tubes are centrifuged at moderate speed for ten minutes, the supernatant liquid is decanted, and the sediment is examined under the microscope.

During the past six or seven years a number of papers have appeared relative to the use of skin tests for the diagnosis of filariasis. The antigens have been made from various microfilaria obtained from animals, the most common being Dirofilaria immitis from the dog as described by Saunders, Bianco, and Jordan.[11] These antigens have been reported to give a high percentage of positive reactions in persons suffering from filariasis; however, the status of these tests is still obscure. All the general objections well known with reference to skin tests as diagnostic procedures apply to the skin test for filaria and in addition there is evidence that these species give cross reactions with each other. For example, antigens made from Dirofilaria immitis give almost as high an incidence of reactions in persons with onchocerciasis (Bozicevich and associates[1]) as do antigens made from Onchocerca volvulus. The fact that an antigen made from Dirofilaria immitis is used to diagnose Wuchereria bancrofti should furnish evidence enough that caution is needed in interpreting the results of these tests.

Onchocerciasis can with certainty be diagnosed by finding the worms in the tumor, which is readily excised, or by finding them in either fresh slivers of skin removed from the face and pressed out between slides or in stained sections of the skin.

ENDAMOEBA HISTOLYTICA

One of the most important laboratory diagnoses with relation to tropical diseases as well as to those of the temperate zone is that of infection with Endamoeba histolytica. In spite of the numerous articles which have been published with reference to diagnosis by cultures and complement fixation, direct examination of the stool remains the standard and only practical procedure available.

If the patient is having loose stools, most of the amebas appear in the trophozoite stage; however, if the stools are formed, a dose of Epsom salts will assure that the motile form will appear. The advantage of examining stools after the administration of salts is that it is necessary to examine fewer stools in order to find the Protozoa. Thus, in a large series, after administration of Epsom salts examination of a single stool will yield positive results in about 75 per cent of cases, while examination of 3 specimens from a patient will yield positive results in upward of 96 per cent. If formed stools are examined, a single stool will yield positive results in about 30 per cent of cases and it will require at least ten stools in order to approach a 90 per cent yield. Dientamoeba fragilis is especially difficult to find in formed stools.

Because the cysts are found in formed stools the pathologist should use the zinc sulfate flotation method if it is necessary to concentrate the cysts. The technique is as follows:

> A 1 in 5 suspension of formed fecal material and tap water is prepared and filtered through four layers of gauze into a 13 by 100 mm. tube until the tube is about half full. The amount of filtrate will be approximately 4 cc., but the amount needed will depend on the heaviness of the suspension; the sediment after centrifugation should cover the bottom of the tube to a depth of not more than 2 mm.
>
> The tube is filled with tap water to within 6 mm. of the top, care being taken not to overflow the tube. The tube should be inverted to mix the contents and then centrifuged one minute at moderately high speed. The supernatant fluid is poured off. This washing should be repeated two more times or until the supernatant fluid is clear. Usually two or three washings are sufficient.
>
> The tube is filled half full with zinc sulfate solution with a specific gravity of 1.180 (the zinc sulfate solution is made by weighing out 331 Gm. of zinc sulfate plus 7 parts of water and adding water to make 1,000 cc. and a specific gravity of 1.180).

The tube should be agitated to mix, but not inverted. Zinc sulfate solution is added with a pipet to within 6 mm. of the top of the tube. The tube should not be inverted before it is centrifuged for thirty seconds.

With a wire loop bent at right angles, 3 or 4 loopfuls are removed from the surface of the liquid and placed on a slide, to which are added 1 or 2 drops of 1.5 per cent solution of iodine with potassium iodide. The slide is covered with a 22 mm. square no. 2 coverglass and examined under the microscope.

Standard textbooks describe the characteristics of the various cysts and trophozoites of the five amebas of man; however, it should be observed that three species of mature cysts, including Endamoeba histolytica, have four daughter cells and that the cyst of Endamoeba coli, at one stage in its development, also has four nuclei. It is the morphologic characteristics of the cyst and not the number of nuclei that determines the species.

The examination of amebas in their motile state requires fresh warm stools and skill in detecting small morphologic details. The well-described characteristics of these amebas are not so clear to the observer as to the writer of the text. Frequently resort must be had to slides stained with iron-hematoxylin. These should be fixed in Schaudinn's fluid, or, if Dientamoeba fragilis is to be differentiated, in Bouin's fluid. The staining method of choice is the so-called long process with iron-hematoxylin, and its advantages outweigh those of the newly described short processes (Magath[7]).

The pathologist must become familiar with the low power of the microscope in searching for amebas. It is necessary to cover large areas on slides in order to find the occasional parasite. This can only be accomplished by using a magnification of 100 diameters. If the examiner attempts to cover the field with a higher magnification, he will not cover a sufficient area. The higher power is needed to identify the parasite after it is found.

INTESTINAL WORMS

One of the most important examinations of persons who have been in the tropics is that designated to detect intestinal and hepatic worms. It is hardly necessary to point out that the gross examination of the stool may reveal the presence of tapeworm segments or Enterobius vermicularis and occasionally an adult Ascaris. The other intestinal parasitic worms will have to be detected by finding the characteristic ova or, in Strongyloides infections, the larvae. If the ova are in abundance they will be observed by examining the stool directly under the microscope, but if not, it will be necessary to resort to a concentration method.

A great number of these methods have been described and range from simple sedimentation in a conical glass to elaborate differential centrifugation in fluids of various specific gravities. There are at present two basic methods which appear to have advantage over other methods. One is the zinc sulfate flotation method, already described, and the other is acid-ether concentration. The latter is simple and yields excellent results. This test is performed as follows:

About 2 Gm. of fecal material is emulsified with 10 cc. of 15 per cent solution of hydrochloric acid. The material is filtered through two layers of gauze. This will result in the collection of about 8 cc. of fluid, which after swirling, should be poured into a 15 cc. centrifuge tube. To this is added 7 cc. of ether and the mixture is vigorously shaken. It is then centrifuged for five minutes at a speed of about 1,500 r.p.m. All of the fluid, including the fatty plug, is poured off, the small sediment is obtained with a capillary pipet, placed on a slide with a coverglass, and examined. Several authors (Hunter, Ingalls, and Cohen[4]) have advocated the addition of one of the wetting agents, such as Triton NE, and from their reports this appears to be justified.

A number of special methods of examining for the presence of intestinal worms have been advocated. For example, biopsy of tissue from the rectum (Geib, Sher, and Cheney) has been advocated as a method of diagnosing Schistosoma mansoni; also a flocculation test (Brandt and Finch) in which serum of the patient is used with an antigen prepared from adult worms and sensitized with lecithin has been advocated in the same infection. A rectal scraper (Weller[12]) for obtaining eggs of Schistosoma mansoni has also been devised. These same methods could be applied to the study of patients suspected of having Schistosoma japonicum. In cases in which an infection with Schistosoma haematobium is suspected the urine should be examined for ova and in cases of infection with Paragonimus the sputum should be examined. In examining sputum it is desirable to concentrate it by treating it first with dilute solution of sodium hydroxide and then centrifuging the specimen.

TABLE 1.—*Comparison between Acid-Ether Concentration and Nonconcentration Methods in Examination of Stools for Ova of Intestinal Worms.*

	Specimens
Total examined	580
Negative (both methods)	465
Positive (both methods, complete agreement)	43
Positive (both methods, incomplete agreement)	3
Positive by concentration but negative by nonconcentration	55
Negative by concentration but positive by nonconcentration	14
Times various types of ova were found (concentration)	123
Times various types of ova were found (nonconcentration)	69

In order to test the importance of concentrating stools in the examination for ova, a series of 580 specimens were examined recently, first by the method of simple wet preparations on coverglass and then by con-

centration by the acid-ether method. The results are given in table 1. It becomes evident that ova were found almost twice as frequently by the concentration method as by the nonconcentration method. Most of these were Trichuris trichiuria and hookworm ova which lend themselves particularly well to this type of concentration. Had the series contained more cases of Schistosoma infection (Mathieson and Stoll[8]) the ova in these cases also would have been found more frequently after concentration than otherwise. On the other hand since there is a strong tendency for Ascaris eggs to be lost by the concentration method, it is quite apparent that both methods should be utilized in order to make the maximal number of diagnoses.

SUMMARY

The clinical pathologist is the key figure in the diagnosis of tropical diseases. He should be thoroughly familiar with the various methods available for diagnosis and should remember that examination by the simpler methods yields satisfactory results; however, these methods require skill and experience and if he is to give satisfactory service to the patient, he must perfect himself in them. Repeated examinations are often necessary to establish a diagnosis. In the blood, bodily exudates, and excreta there are a great number of objects that resemble parasites at different stages in their life histories. The clinical pathologist and the technician must always be on guard lest these objects be erroneously reported as animal parasites.

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ABSTRACT OF DISCUSSION

Dr. John J. Andujar, Fort Worth: The time of collecting blood for laboratory examination in certain of these diseases is particularly important. Thus, we are told that the larvae of Wuchereria bancrofti are in the peripheral blood at night, whereas the larvae of Loa loa are seen in the peripheral blood mostly in the daytime. Again, in malaria we are occasionally told that there is some specific time to collect the blood in relation to the chill. There appears to have developed a tradition that the blood for plasmodium examination should be collected at the height of the chill, whether it is day or night. The scientific reason, if any, for this unfortunate tradition is obscure, and I would appreciate Dr. Magath's comment on this point.

Dr. Magath, closing: The question relative to filaria has been answered in the text. If thick smears are made for plasmodia, the time they are made with relation to the symptoms is of little importance. In general, parasites are more readily seen in thin smears a few hours before and after a chill, than just at the time a chill is taking place.

PHEOCHROMOCYTOMA

REPORT OF A CASE SUCCESSFULLY TREATED BY SURGERY

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The first cases of pheochromocytoma were reported in 1897 by Neusser,[14] who observed 2 cases with the clinical picture of "cerebral hemorrhage" and "contracted kidney" but which on autopsy revealed a "carcinomatous change" of the adrenal gland. It was concluded that the hyperfunction of the adrenals with an excessive production of epinephrine had led to the atherosclerotic changes. It was not until 1922, however, that paroxysmal hypertension as a characteristic of chromaffin tumor of the adrenal medulla was first referred to by Labbe, Tinel, and Doumer.[8] Pinoff and Shipley[15] in 1929 reported the first case in which a correct diagnosis was followed by successful operation. Since that time a good many cases have been diagnosed with the successful surgical removal of the tumor.

The following case is reported to emphasize the syndrome with the clinical picture of diabetes mellitus, paroxysmal hypertension, and hyperthyroidism, all of which were cured by the surgical extirpation of a tumor of the right adrenal gland.

CASE REPORT

A business executive, aged 42 years, was referred to one of us (SAF) on April 18, 1947, by Dr. Y. C. Smith of Corpus Christi. Mild diabetes was found three years earlier and a special diet without insulin was prescribed. On several occasions during the two

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years previously the patient's blood pressure was found to be elevated. In recent months there had been "attacks" of sudden weakness associated with fast beating of the heart and extreme nervousness. Approximately three months ago he had been examined in a large Texas clinic without obvious relief. Dr. Smith reported his blood Wassermann and Kahn tests negative and a complete blood count normal. Urinalysis showed a trace of sugar but was otherwise normal. The basal metabolic rate was +27 and on another occasion +38. The blood cholesterol level was 319 mg. per 100 cc. of blood.

FIG. 1. Pyelogram showing the right kidney displaced downward and the upper pole laterally by a mass in the region of the right suprarenal gland. The mass contains several calcific deposits.

A glucose tolerance test (Exton-Rose 2 dose type) showed the following: fasting, blood sugar 185 mg. per 100 cc. of blood, urine sugar negative; 30 minutes, blood sugar 244 mg., urine sugar 2+; 1 hour, blood sugar 318 mg., urine sugar 4+; 2 hours, blood sugar 350 mg., urine sugar 4+. The blood pressure was found to be 160/110 and the pulse rate 100, and a fine tremor of the hands was noted. His body weight was 155 lbs.

When the patient was first seen, his arterial pressure was 190/120 and 180/110, two days later it was 160/100, and four days later 188/110. A number of "weak spells" occurred during the first few days of observation, and he was rapidly going downhill. He had lost 33 pounds in body weight during the preceding six months. On May 5, 1947, he was admitted to Memorial Hospital (Houston) for study and the following day he experienced a "terrible weak shaky spell," during which his face was flushed. A marked tachycardia was noted and a feeling of throbbing and fullness appeared in his head; he became markedly apprehensive and was afraid of sudden death. The pulse was rapid, at 130 beats per minute, regular; the blood pressure was 234/150. The pupils were slightly dilated and the picture of an extreme anxiety was present. After an hour the blood pressure declined to 180/110 and the pulse to 105 beats per minute, accompanied by a feeling of depression.

The past history was not remarkable except for an appendectomy in 1938, a tonsillectomy at the age of 19, diphtheria at the age of 18, and measles in 1943.

Physical examination revealed the pupils to react normally; optic fundi were not abnormal. The ears, nose, and throat were normal. The thyroid gland was not enlarged and no bruit was heard. The lungs were normal. The heart was not enlarged, no murmurs were audible, the rate was 110 beats per minute, and the aortic second sound was greater than the pulmonary second sound. Abdominal examination revealed a palpable lower pole of the right kidney, but no masses were felt. All deep reflexes were exaggerated, general muscular weakness was present, and easy fatigability was noted. Mental depression and marked apprehensiveness were also evident.

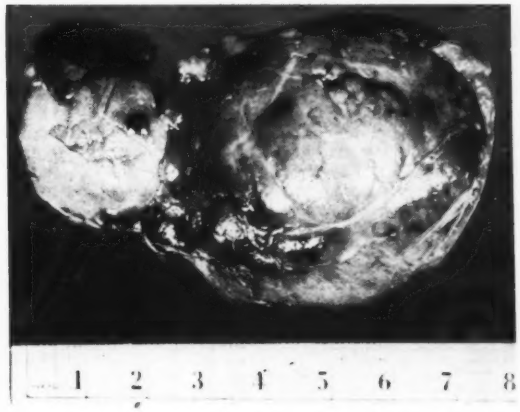

FIG. 2. Pheochromocytoma of the adrenal gland.

Development and Course in the Hospital.—The fasting blood sugar was 260 mg. per 100 cc. and nonprotein nitrogen 40 mg. per 100 cc. on the second hospital day. The hemoglobin was 15.5 Gm. per 100 cc., red blood cell count 4,930,000, leukocyte count 16,800, with neutrophils 68 per cent, lymphocytes 30 per cent, and eosinophils 2 per cent. The urine specific gravity was 1.032 with a slight trace of albumin, sugar 4+, and microscopically rare hyalin cast. The basal metabolic rate was +15. The phenolsulfonphthalein test showed 40 per cent of the dye excreted at 15 minutes, 15 per cent at 30 minutes, 10 per cent at 1 hour, and 5 per cent at 2 hours, with a total of 70 per cent in two hours. An electrocardiogram showed sinus tachycardia of 130 beats per minute, otherwise normal.

A diagnosis of diabetes mellitus and hyperthyroidism was made. The patient was placed on a diet of carbohydrate 150 Gm., protein 70 Gm., and fat 100 Gm. and was given protamine zinc protein 20 units each morning. Adjustment of diet and insulin over the period of the next few days did not bring about satisfactory control of the hyperglycemia. At this time it was decided to give the patient thiouracil therapy. The symptoms were not relieved and the patient felt worse. He lost about 5 or 6 pounds during the next eight or nine days.

The paroxysmal nature of the hypertension became more evident and was associated with emo-

tional instability, flushing of the face, tremor, and marked weakness. On May 15, ten days after admission, the possibility of pheochromocytoma came to mind and special studies were made to detect its presence. An intravenous pyelogram revealed normal kidney function with well defined renal pelves and calyces. The right kidney was displaced downward and the upper pole laterally by a mass approximately 4 to 5 cm. in diameter in the region of the right suprarenal gland. This mass contained several calcific deposits and is shown in figure 1. It was considered unnecessary to do perirenal aerograms as the mass seemed so definite. Thiouracil, diet, and insulin were continued. The basal metabolic rate was still +34 on May 23. Pressure over the adrenal areas or over the upper abdomen as well as a forcible flexion of the thighs on the abdomen brought about no significant blood pressure changes. The "histamine test" of Roth and Kvale[16] was not tried.

The patient's condition remained unimproved, and on May 28, an operation was performed by Drs. J. P. Barnes and Thomas H. Guthrie. Access to the tumor was obtained by a high right kidney incision with removal of the right twelfth rib. The tumor was covered by a group of large tortuous blood vessels which were carefully dissected and the capsule was entered. The tumor was gently removed and there was considerable oozing of blood which had to be controlled with "gel foam" and "oxycel." The actual blood loss at time of operation was not great. Surgical shock was not marked and was readily controlled by the measures discussed below.

The tumor was diagnosed by the pathologist, Dr. R. H. Chappell, as a pheochromocytoma of the adrenal gland and measured 9 by 4.5 by 3.5 cm. The mass consisted of two globules, the larger measuring approximately 5 cm. in diameter and the smaller 2.5 cm., which were bound together. It was a well encapsulated mass (figure 2).

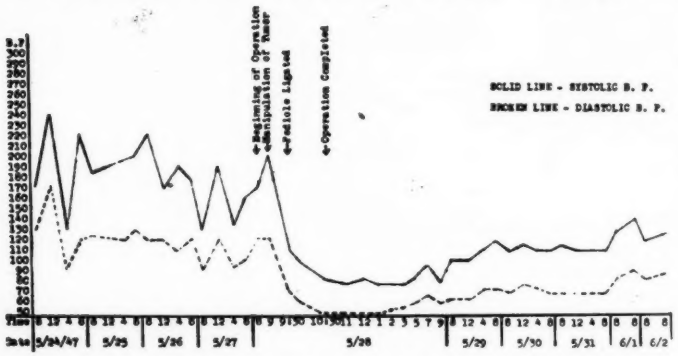

FIG. 3. Graph showing blood pressure several days prior to and for several days following an operation to remove a pheochromocytoma of the adrenal gland.

The blood pressure several days prior to surgery and for several days postoperatively is presented in figure 3. The paroxysmal nature of the hypertension and the profound change when the pedicle of the tumor was ligated are evident. The blood pressure promptly fell to 100/70. Other significant features were the changes in blood sugar to 125 mg. per 100 cc. and by 4 p.m. to 40 mg., 8 p.m. to 90 mg., and next morning to 120 mg.; it has remained at normal levels since. Shock was evident but not severe and epinephrine intravenously and by subcutaneous injection was given. Ten cc. of Upjohn's adrenal cortex extract was given intravenously in normal saline solution on return from surgery. Cortate (desoxycorticosterone) 5 mg. was given intramuscularly every six hours. Also a blood transfusion was given.

A postoperative wound infection, which was readily drained after a few days, marred the patient's immediate postoperative recovery. He was discharged from the hospital on June 17 feeling well. The patient's subsequent progress has been excellent.

Careful physical examination at the office on July 15 revealed a blood pressure of 135/90, a basal metabolic rate of —5, a fasting blood sugar of 80 mg. per 100 cc., and a nonprotein nitrogen level of 33 mg. per 100 cc. A blood count, urinalysis, and electrocardiogram were within normal limits.

On January 19, 1948, the blood pressure was 146/100; the blood count and urinalysis were normal. The patient's weight was 180 pounds, showing a gain of 25 pounds since the operation the previous May. The glucose tolerance test (Exton-Rose) revealed the following: fasting, blood sugar 89 mg. per 100 cc., urine test for sugar negative; 30 minutes, blood sugar 154 mg., urine sugar negative; 1 hour, blood sugar 190 mg., urine sugar 3+; 2 hours, blood sugar 113 mg., urine sugar 2+; 3 hours, blood sugar 78 mg., urine sugar a slight trace.

At present the patient feels quite well.

DISCUSSION

The adrenal gland consists of two parts, the medulla and cortex; although closely associated anatomically they have separate origins and are structurally different and, as far as is known, functionally independent. The cortical cells arise from the celomic epithelium which later forms the Wolffian body and the urogenital fold, and they in turn form the testes and ovaries. The medullary cells and sympathetic ganglion cells have a common origin. They develop from primitive cell masses which have separated from the neural crest and the mature cells undergo chemical changes so that on being stained with a chromate solution they turn brown and are called chromaffin cells or pheochromes.[1, 2]

The pheochromocytoma consists of chromaffin cells which are polyhedral in shape and contain no glycogen or lipoid. The nuclei are usually eccentrically placed; some appear to be like giant cells. Several physiologic studies of the freshly removed tumor reveal a marked increase in epinephrine content. In one case the epinephrine content was 67.2 mg. as compared with the average normal suprarenal gland of 8 mg.[4, 13] The symptomatology presented by these cases is apparently due to the outpouring of an excessive amount of epinephrine into the general circulation, giving rise to tachycardia, hypertension, hyperglycemia, glycosuria, and increase in basal metabolic rate (calori-

genic action and not due to stimulation of the thyroid). Hypertension, whether it be paroxysmal or sustained, is a constant feature of chromaffin cell tumor. The other clinical and laboratory findings may show wide variations from one case to the other. The hypertension, unless terminated by operative removal of the tumor or early death, tends to the production of a chronic disease characterized by persistent systolic and diastolic elevation of the blood pressure and secondary changes in the cardiovascular system.[6, 12] Duncan Semans and Howard pointed out[5] that when the clinical picture of hypertension, hypermetabolism, and diabetes are encountered the possibility of pheochromocytoma should be strongly considered. Elevation of the basal metabolic rate from +25 to 40 with a high normal or high blood cholesterol level with the other features of glycosuria and hypertension makes such a possibility almost a certainty; such was true in our case.

In addition to the clinical findings certain diagnostic procedures are necessary to make the diagnosis and to localize the tumor. Roentgen-ray visualization is important and in a goodly number of cases it is not as easy as it was in our case. Intravenous and retrograde pyelograms may show displacement of the kidney and distortion of the kidney, pelvis, and calices on the affected side. Perirenal aerograms may bring smaller tumors into relief but such a procedure is occasionally followed by undesirable side effects.[9] A new test method described by Roth and Kvale[16] consists in the intravenous injection of 0.05 mg. of histamine which will induce typical paroxysms of hypertension in these cases. The method is based on the fact that the denervated cat's pupil is dilated by histamine only in the presence of the adrenal glands. It is assumed that the injection of histamine causes an outpouring of adrenalin from the suprarenal medulla. Excessively high potassium levels in the serum of patients suffering from pheochromocytoma have been reported.[10] Biskind, Meyer, and Beadner[3] have described the above diagnostic procedures in some detail and also the preoperative and postoperative treatment.

Certain features concerning the removal of the tumor are worthy of mention. First, during manipulations of the tumor an excessive rise in blood pressure may occur. This is forestalled (as in our case) by careful technique without tearing of the capsule and by dissecting the tumor as rapidly as possible. Second, the risk attending the operation is the sudden and excessive fall in the blood pressure following the removal of the tumor. Shock occurred in 18 of a total of 29 cases reviewed by Biskind and others.[3] Death occurring during or after the operation is apparently a result of shock due to a sudden decrease in the epinephrine level of the blood. The treatment for this shock is the administration of epinephrine by intravenous drip in saline solution and by subcutaneous injection. The dosage depends on the level of the blood pressure and condition of the patient. The administration of adrenal cortex extract, desoxycorticosterone, glucose, and saline solution are also essential to maintain proper physiologic and metabolic conditions to promote proper postoperative recovery.

After successful surgical removal of pheochromocytoma the prognosis for ultimate recovery is excellent. Malignant pheochromocytoma with associated hypertension is extremely rare; one such case was reported by McKenna and Hines in 1935.[11]

SUMMARY

A case of pheochromocytoma of the right adrenal gland is reported with the clinical picture of diabetes mellitus, paroxysmal hypertension, and hyperthyroidism. Complete recovery has followed surgical removal.

The pathologic physiology, diagnostic procedures, preoperative, and postoperative treatment are discussed.

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ABSTRACT OF DISCUSSION

Dr. R. E. Nitschke, San Antonio: My first reaction is to wonder how often we miss the diagnosis of pheochromocytoma. There is evidence which indicates that it is not as rare as the relatively few

cases reported in literature would lead us to believe. In Smithwick's series of hypertensive patients subjected to lumbodorsal sympathectomies at least 14 patients have had adrenal pheochromocytomas which were not expected preoperatively. The true incidence is probably greater, since 15 per cent and, according to some authorities, a much higher percentage of such tumors are extra-adrenal, occurring in the ganglia in the region of the aorta, vena cava, retroperitoneal tissue, and the thoracic sympathetic chain.

Other than the fact that our index of suspicion is low, why do we miss the diagnosis of pheochromocytoma? The observation made by Dr. Foote that the hypertension may not be paroxysmal, but may be persistent, deserves further emphasis. The complete lack of fluctuations in the blood pressure may make this indistinguishable from essential hypertension. In one review of 51 patients only 14 had intermittent hypertension. Furthermore, once suspected, preoperative demonstration of chromaffin tumors may be difficult and not accomplished by pyelograms or even perirenal air insufflation. In either of these studies the tumor would not be revealed if it were extra-adrenal.

I have accomplished pyelograms on almost all of my hypertensive patients and have been using the test method described by Rothe and Kvale in those persons with a fluctuating blood pressure. However, the histamine test cannot be satisfactorily utilized when the blood pressure is sustained.

Recent work has been accomplished with the use of adrenolytic drugs of the benzodioxane group. If this is as efficacious as it seems, it provides a test that is simple and applicable to those patients demonstrating a persistent hypertension.

I agree with the observation that when the clinical picture of hypertension, hypermetabolism, and diabetes is encountered the possibility of pheochromocytoma should be strongly considered. However, I would amend this to suggest that whenever hypertension exists, the possibility of pheochromocytoma should be considered and investigated, since the removal of such tumors provides the rare opportunity of actually curing high blood pressure.

DIPHTHERIA AND WHOOPING COUGH IMMUNIZATION

A comparatively new method of immunizing children against diphtheria and whooping cough gives better protection from diphtheria than immunizing against the disease separately and "confers substantial protection" against whooping cough, Dr. Joseph A. Bell, senior surgeon of the U. S. Public Health Service at Bethesda, Md., writes in the July 17 issue of *The Journal of the American Medical Association.* The method consists of injecting an alum-treated mixture of whooping cough vaccine and diphtheria toxoid in two doses, four weeks apart.

Among 407 children who received two doses of the mixed product, 48 cases of whooping cough occurred; among 385 children who received two doses of the vaccine alone, 158 cases of whooping cough occurred. A year after receiving the first injection, 992 children in the diphtheria study were given Schick tests. Children who received the mixed product had only one-third as many Schick positive reactions as did those who received the unmixed toxoid.

The injections are effective in babies as young as 2 to 5 months of age against both diseases, Dr. Bell says, and side reactions are "few and negligible."

Medical services are not commodities that can be bought in standardized packages wherever and whenever one has the money to pay for them.—Medicine in the Changing Order, Rep. New York Academy Med. Comm., The Commonwealth Fund, 1947.

MANAGEMENT OF ACUTE SINUS INFECTION

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I have seen the trend in treatment of acute sinus infection change a number of times. In my first years of practice, the chief idea was to establish ventilation and drainage and to render the patient free from pain, but in trying to accomplish this result all respect for tissue and physiology was ignored. The ideas of treatment are now based on the recent research in nasal physiology which has produced a better understanding of mucociliary activity, the pH of the nasal secretions, ventilation, and drainage. For much of this knowledge, we are indebted to Dr. Proetz for his untiring and stimulating work on the subject.

With the preceding ideas in mind, I do not believe that with respect to local medication anyone could improve on the words of Fabricant who stated, "Non-toxic medication, compatible with ciliary action, possessing a physiologic nasal pH and non-traumatizing to the mucous membrane, is most useful in the treatment of nasal and sinus disease . . . for it functions on a rational physiologic basis."

In acute stages of sinus infection, the patient should be handled as any other acutely ill person for whom there is no specific treatment. The patient should be put to bed in a warm moistened room, fluids and fruit juices should be forced, and the patient should be made comfortable with acetylsalicylic acid with the addition of codeine if necessary. The application of cold or heat over the involved area seems to give some relief. If there is a great amount of nasal congestion, it is advisable to prescribe an astringent nasal medication that conforms to the specifications required of an intranasal medicament compatible with nasal physiology and used in the head low position of Proetz or Parkinson. If in febrile patients the fever persists, or if complications impend, the use of sulfonamides, penicillin, streptomycin, or all three should be introduced, their use depending on the bacteriologic findings and clinical results.

At present there are many ways suggested for the administration of the antibiotic drugs for sinus infection. I have discontinued the use of the sulfonamides locally and use them only by intravenous and oral routes. Penicillin has been used extensively in nose drops, in displacement, and by injection into the sinus following aspiration. From these meth-

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ods of use, I have had no brilliant results. The best results I have obtained have been from the intramuscular injection. During the last year there have been good reports from penicillin aerosol therapy, but I have not seen enough of the end results to judge its value. Streptomycin may be used by the intramuscular route or by inhalation.

ACUTE MAXILLARY SINUSITIS

In acute maxillary sinusitis, office treatment should not be started until the patient is free of fever and there is a persistence of the nasal symptoms; then the idea should be to promote drainage and ventilation with as little traumatism as possible.

As pointed out by Van Alyea, those cases that linger do so because of the failure of adequate drainage. This drainage and ventilation may be accomplished by astringents in the middle meatus combined with infrared radiation and followed by nontraumatizing capillary suction. After a reasonable length of time, if this fails, it is advisable to resort to irrigation of the sinus either through the natural osteal or by the inferior meatal approach. The irrigation should not be attempted unless the temperature is normal and local reaction is minimal.

Even at this opportune time, irrigation is not without danger. The accidents that may occur are clearly pointed out by Hollender as follows:

"1. Failure completely to perforate the antral wall diverts passage of the irrigating fluid into the soft tissue, resulting in swelling and edema which may persist for some time.

"2. Trauma to or perforation of aberrant blood vessels has resulted in air embolism and sudden death.

"3. Inability to advance the trochar after it is introduced suggests that the posterior sinus wall has been entered, with danger of injury to the soft tissue of the sphenomaxillary fossa.

"4. Injury to the antral wall or even the introduction of the trochar without obvious injury, occasionally results in osteomyelitis with edema and swelling of the neighboring tissue.

"5. Excessive bleeding is the result of undue trauma.

"6. Trismus is a late complication attributable to swelling and edema of the orbital tissue."

No matter how careful the physician is, one or more of the above accidents may happen when least expected. I have had 2 cases in which I produced an edema by allowing fluid to enter the soft tissue, 1 case in which there was excessive bleeding, and 1 case in which osteomyelitis resulted. This case of osteomyelitis was fulminating, rapidly spreading to the ethmoid and frontal bones and terminating with brain abscess and death.

ACUTE FRONTAL SINUSITIS

In acute frontal sinusitis, conservative treatment should be carried out as in acute maxillary infection, but if drainage and ventilation cannot be established and pain persists, infraction of the middle turbinate or possibly irrigation of the sinus should be done. In the case of impending complications, external trephinement may have to be resorted to.

Of the above mentioned surgical procedures, infraction of the middle turbinate is the least dangerous and least complicated. I have used this procedure numerous times without complications and with gratifying results. If irrigation is carried out, it should not be done with force and anesthesia should be complete. If force is used, there is always danger of injury to the cribriform plate or the soft tissue with possible spread of the infection. When the infection is fulminating and intracranial complications are impending, I believe external trephinement to be a life-saving procedure, but when it is done, a great deal of respect must be paid to the periosteum.

ACUTE ETHMOID INFECTION

In acute ethmoid infection, the conservative treatment of shrinkage, capillary suction, and external heat should be used. Also the Proetz displacement treatment sometimes gives gratifying results. If edema of the lids develops and there is no improvement from conservative measures, it is advisable, according to Hollender, to remove the anterior end of the middle turbinate opening into the ethmoid labyrinth. If extreme toxemia develops, associated with edema and exophthalmus, with limitation of motion of the eyes, radical intervention is necessary. In my experience, the fulminating ethmoid infection has been observed mostly in children and in those cases simple external incision with opening into the ethmoid has brought about a cure. In recent years, thanks to the sulfonamides and penicillin, I have not seen one of these fulminating infections.

ACUTE SPHENOID INFECTION

Acute sphenoid infection should be handled by the conservative methods of shrinkage, external heat, and capillary suction, but if symptoms persist, irrigation is advisable. I have seen few cases of sphenoiditis that would not respond to the conservative form

of therapy, and have had to resort to irrigation on few occasions.

Short wave diathermy and roentgen-ray treatment have their advocates, but the use of these agents in my practice has been so limited that I am in no position to evaluate their merits.

SUMMARY

1. The modern ideas of treatment are based on the recent research in nasal physiology.

2. Acute sinus infection should be handled conservatively, but surgical intervention should not be delayed if the condition warrants it, although extreme care should be exercised to prevent all possible accidents.

3. Sulfonamides, penicillin, and streptomycin should be used if fever persists or if complications are impending.

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ABSTRACT OF DISCUSSION

Dr. A. F. Clark, Jr., San Antonio: Unfortunately, the otolaryngologist does not often see cases of acute sinusitis in the earliest stage—a time when the most can be done to shorten morbidity.

The sulfonamides and antibiotics have been a great adjunct in the treatment of sinusitis; however, I do not believe that they will entirely cure the condition. Certainly proper ventilation and drainage of the sinus is necessary. The recent fad of penicillin aerosol is not nearly as effective as originally thought.

In the treatment of acute maxillary sinusitis tampons with shrinking solutions and mild suction will clear a great many of the infections. Following irrigation of the sinus it is well to instill one of the antibiotic solutions. I think that puncture of the inferior meatus is a better procedure than washing through the natural osteum because that does not traumatize an already inflamed osteal membrane. The complications of antral irrigation are better prevented by foresight than hindsight, and because of this, the sulfonamides and antibiotics are given. These drugs prevent the spread of infection but will not halt the purulent condition within the sinus cavity.

I definitely consider that the treatment of acute frontal sinusitis by shrinking and suction for adequate drainage and the use of chemotherapy is best done without intranasal surgical procedures. Early trephinement of the frontal sinus and irrigation with penicillin or tyrothrycin solution through a rubber tube into the sinus has given excellent results and is a relatively simple procedure. The irrigation flow is thus through the trephine opening into the nose through the naso-frontal duct, and the inflamed mucosa is not traumatized. Any instrumentation about the naso-frontal duct will lead to stenosis and chronic frontal sinusitis. Trephining the frontal sinus allows relief of the pus under pressure and prevents the complications of osteitis, osteomyelitis, and intracranial involvement.

MEDICO-LEGAL TESTIMONY

THE EXPERT WITNESS

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Testifying in court is somewhat fascinating. This statement is open to contradiction as many physicians have a distinct aversion to appearance in court. This is due in a great part to unfamiliarity with court procedure and to the fact that the usual procedure of the physician being the questioner is reversed. The doctor is no longer the one who asks the probing question of the person in the consultation chair; he has changed places and is in the consultation chair himself or, as in this case, in the witness chair, subject to almost any question the whim of the questioner may direct.

For this paper only the expert witness in civil court on compensation and liability damages will be considered, and the discussion will be limited even further to the testimony of the radiologist.

The role of expert witness is important and at times exceedingly difficult. The witness is sworn to tell the truth, the whole truth, and nothing but the truth. To tell the truth and nothing but the truth is relatively easy, but to tell the whole truth is often difficult and at times completely impossible. This appears to be an unusual paradox, but nevertheless it is true. The reason is quite simple. The witness is there to answer questions and not to offer information or opinion of his own volition. Counsel either for or against has not taken an oath to bring out the truth, the whole truth, and nothing but the truth. Counsel is present for the benefit of his client and is not interested in bringing out evidence not helpful to his client and of course even less interested in bringing out evidence detrimental to his client. For this reason it is often difficult and even at times impossible to tell the whole truth. The witness is simply not asked questions that will bring out the whole truth, nor is he asked questions the nature of which will permit him to elucidate or expand his answers to cover the whole truth. A physician may come away from court at times feeling that his testimony left with the court and jury has

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carried an entirely different interpretation from the one he intended to convey, and entirely different from his true opinion in the case.

No, it is not easy to stick to the letter of the oath taken when stepping to the witness chair, but physicians should keep the thought of this oath before them continuously during their testimony and do their best to stick to it on every point.

Here I should probably mention briefly the few unscrupulous men who will, as the saying goes, "testify to anything." Unfortunately such there are in the medical profession. The answer to this problem I do not know. I will just mention the "Minnesota experiment."

The following are excerpts from an excellent discussion by Dr. E. M. Hammes on this subject, appearing in *Minnesota Medicine*, February, 1945[3]:

"A committee was appointed by the president (of the Minnesota State Medical Association) with the approval of the Council of the Minnesota State Medical Association. The committee was empowered to review those court cases in which medical testimony appeared to the court or to the attorneys or to some physicians to have been so contradictory as to indicate that one or more of the medical witnesses appeared to be consciously deviating from the truth. . . . In cases where the testimony was of a mildly questionable character, more due to ignorance or overenthusiasm, the committee deemed it advisable to have one of its members discuss the problem with the accused physician and point out his delinquencies. This has proven very satisfactory. In cases of a flagrant character, our committee submits a complete report, with the transcript, to the State Board of Medical Examiners. This Board has judiciary power and can suspend or revoke the offending physician's license."

I have not seen any recent report of how well this process has functioned since 1945.

SUBPOENAS

Appearance in court as an expert witness may be voluntary on the part of the witness or by subpoena on the part of the court, at the request of either the plaintiff or defense and rarely at the instigation of the court itself.

Subpoenas in Texas county and district courts[1] can be issued only for the county in which the court proceedings are held. They are invalid if the witness resides in another county. However, the subpoena may be served if the witness appears in the county in which the subpoena is issued.

This procedure is sometimes followed by a witness who desires to testify in a given case but for some reason does not wish to appear as a voluntary witness. However, this subterfuge is usually clearly evident by the fact that the witness has made himself available in the county where he is subject to subpoena. This fact may prove embarrassing to the witness if it is brought to the attention of the court.

Federal courts are somewhat different.[1] Subpoenas are issued for the district and for a distance of one hundred miles if the witness is out of the district. However, on proper application and showing a witness may be subject to subpoena in a federal court regardless of distance or district.

Depositions may be taken for use in any case where it is inconvenient or impossible for the witness to appear in court, and are usually admitted to any court in the United States. These depositions are taken under oath and are read to the court on proper admission and are included in the records of the trial.

They are usually voluntary and proper discretion should be used in giving a deposition. I would consider it ill advised voluntarily to give a deposition which would violate the confidence of any patient or person.

Contrary to popular opinion communications between patient and doctor are not privileged communications in Texas.[1] The doctor witness is required to testify to such facts as may be brought out by the questioning in court. Also by the same token the witness is not subject to civil suit[1] if such testimony is given in court as the result of the witness appearing by reason of a subpoena.

In Texas courts a physician may be compelled to testify to facts and opinions in a given case.[2] The latter in effect, is expert testimony.

This brings up the question of fees in expert testimony. In the absence of an agreement to the contrary between the witness and the party requesting his appearance in court, the only fee the witness is legally entitled to is that of any witness appearing in the same hearing. This is a point to remember and a definite agreement between the witness and the parties concerned should be made prior to such appearance in court. A witness appearing under subpoena can be compelled to accept the regular witness fee and cannot refuse to appear even though

an agreed fee cannot be arranged between him and the parties concerned.

I do not recall an instance where this has occurred, since the litigants are usually willing to pay a reasonable fee for expert testimony. Also it seems logical to assume that any lawyer would hesitate to use a witness who might be somewhat antagonistic because of what he considered an improper evaluation or remuneration for his time and expert opinion.

There is wide confusion, both among laymen and physicians, as to the ownership of roentgenograms, whether they are the property of the physician, the patient, or the party who has paid for the radiologic examination if other than the patient. I know of no ruling made by the courts of Texas in this matter, although such a ruling may exist. The generally accepted practice is that such roentgenograms are the property of the physician who made them unless there has been a previous agreement otherwise. This question has been ruled upon in some states, notably by the Supreme Court of the State of Michigan,[4] which rendered the opinion that "In the absence of agreement to the contrary, such negatives are the property of the physician or surgeon who had made them incident to treating the patient."

Now, to actual appearance in court as a witness. First it is the duty of a physician to appear in court when and if his testimony is necessary for the proper and complete evidence in any given case, and to present it to the court so that justice may be attained. Far too many physicians shy away from a case that has any suggestion of legal entanglement. This attitude is unjust to the patient who has consulted the physician in good faith with due regard for his opinion and ability.

Usually the witness will be given ample advance notice when he will be expected to appear in court and the approximate hour he will probably appear on the witness stand. Lawyers are well aware of the inconvenience a physician incurs when he is called away from his office during office hours and make every effort to detain such witnesses as short a time as possible.

In the event a physician lives in the city or town in which court is held it is customary for the lawyer in the case to call him only a few minutes before he is to testify, after having given him an alert one or more days prior to the expected date of his appearance.

Having reported to the court, probably during the testimony of the final witness before he is to be heard, the physician will probably be excluded from the court room by the "rule of witnesses" which is usually invoked so that the only witness allowed in the court room is the one giving testimony at that particular time.

Following are some suggestions relative to court procedure. They are to be considered as merely suggestions based on my opinion.

COURT PROCEDURE

Upon being called into court the physician will be directed to the witness chair, where, while still standing, he will take the oath to tell the truth, the whole truth, and nothing but the truth. The judge will then invite him to be seated in the witness chair and from that point on he is the lawyer's witness for direct examination. At the end of the direct examination the witness is subject to cross examination by the opposing lawyer or lawyers.

Before beginning actual testimony in the case the lawyer should qualify the physician as an expert witness, usually by covering his education, naming the dates and schools of his degrees, his internship and residency, giving dates and hospitals and the time spent in each, postgraduate work and additional training tending to qualify him in his specialty, membership in medical societies, diplomacy from specialty boards, and membership or fellowship in the various American specialty colleges. The lawyer should be familiar with the physician's qualifications before he appears on the witness stand.

Testimony should be given in a firm voice and care should be taken not to speak too rapidly. Replies should be directed toward the jury, if it is a jury trial, which is the usual case in civil courts. If not directed specifically to the jury, the replies should be clearly audible and understandable to the jury.

Plain, everyday language should be used so that the physician's meaning is clear. As few medical terms as possible should be used, and when it is necessary to use medical terms their meaning should be explained in lay terms. Terms such as sclerosing osteitis, osteochondritis dissecans, and others of a like nature have no meaning whatever to the average laymen who compose the jury; and it is the physician's right and duty to explain any statement he makes as a witness so that there is a clear understanding of its meaning.

It is also the right of the expert witness to elaborate on any answer in which the questioner insists on a yes or no answer.

This insistence may, and often does, occur on occasions in which a direct yes or no answer is entirely misleading, and in which further elaboration is essential to indicate the true picture.

An example of such a question might be as follows:

Question: Is there considerable increase in the amount of new bone formation in this second picture as compared with the first. Answer, yes or no!

Answer: Yes.

If this unqualified answer is allowed to stand it could or would be construed to indicate that healing of a fracture was progressing satisfactorily, whereas in truth, the new bone formation might be diseased bone or the result of diseased bone and represent involucrum about the diseased area, thus not representing normal bone repair, but quite the contrary.

It is the legal right of the expert witness, and also his duty, to qualify a directed yes or no answer when such a qualifying statement is indicated so that proper interpretation of the answer is assured the court. This right of the expert witness will be upheld by the court if the questioner objects to a qualifying statement.

The proper answer to such a question would be "yes, with certain qualifications," the qualifications then to be explained in any way and at any length the witness believes necessary.

The witness should consider each question carefully before he answers. Unless the answer is quite evident the question should not be answered rapidly as the question is ended. A rapid answer not carefully considered may result in a statement by the witness which is not completely in accord with his exact opinion. He may find himself in a position of trying to frame answers to following questions to support his original statement, resulting in confusion and embarrassment. The questioner is quick to spot these minor discrepancies and make the most of them by pounding question after question along the same lines, primarily to confuse the witness if he is the cross examiner, and primarily to further his advantage if he is the direct examiner and the indiscreet answer has been in his favor. If the witness has inadvertently given an answer or made a statement that has allowed an erroneous interpretation, it is far better to ask for a re-reading of this question and answer, correcting the original answer, than to attempt to substantiate a statement which is not completely in accord with the facts. The court will allow such a correction.

In giving testimony, the physician should stick strictly to his specialty, not attempting to answer questions which are outside of his field. He can simply state that the question is out of his field or specialty, and the court will not compel him to answer.

The physician should never hesitate to say, "I do not know" when such is the case. Such an answer is not a confession of ignorance of medical knowledge, but simply an acknowledgment that he does not know the answer to that particular question. Such an answer is far better than an attempt to answer something with which the expert witness is not familiar, thus leaving him open to further questions along the same line, which tends to exaggerate his ignorance on the subject and thereby places an entirely different light on his ability on this particular subject, than would have been the case had he simply answered "I do not know."

Another "never" is for the physician never to become angry or at best never to lose his temper on the witness stand.

A favorite ruse of a few questioners on cross examination is to goad the witness to anger, knowing full well that an angered witness may make statements that cannot be completely substantiated by the evidence itself. In the event this does not occur, the method still demonstrates to the jury that the angered witness is at least antagonistic to the cross examiner and thereby also to his case. Such an impression on the jury may well influence the value and credibility of the testimony.

The final problem is "the hypothetical question." Rarely is this question omitted with an expert witness on the stand. It consists of a long, carefully worded and phrased question which sometimes requires several minutes for the examiner to expound. This question concerns a mythical situation which elaborately covers every contention that the questioner alleges or is attempting to prove to the court exists in the case on trial. It is so couched that the answer, if every factor is correctly weighed, is almost a foregone conclusion to be highly in favor of the questioner and his case. This advantage, of course, is contingent on his ability to prove to the court that his contentions are true, and this is strictly no concern of the physician.

The witness should endeavor to answer the question to the best of his ability. Often parts of the question are ambiguous, and the witness should request clarification of any parts of the question which he does not understand or which are so stated that he is not able to give a definite answer.

The hypothetical question should always be studied carefully before an answer is given. Above all, it should be remembered that the question in no way refers to the case in litigation, being strictly a hypothetical question which should be completely disassociated from the case at hand and from any testimony previously given in the case before an answer is given.

REFERENCES

1. Cox, E.: Doctor in Court, Texas State J. Med. 38:614-618 (Feb.) 1943.
2. Denman, P. R.: Medical Witness, Texas State J. Med. 39:428-429 (Dec.) 1943.
3. Hammes, E. M.: Control of Medical Testimony, Minnesota Experiment, Minnesota Med. 28:111-114 (Feb.) 1945.
4. Michigan Supreme Court, Ownership of Roentgenograms: McGarry vs. J. A. Mercier Company, 272 Michigan 262 N. W. 296, rendered in 1935.

704 Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. Jesse B. Johnson, Galveston: Dr. Tyner has touched some pertinent points and elucidated many others. His first point that the witness may not be permitted to bring out the salient points upon which the merits of the case should be decided too often is true. This should not happen if sufficient time has been taken with the physician's own attorney before testimony is offered. A great measure of the value of the expert's testimony depends on his counsel. The witness should go over the case carefully with him.

The unscrupulous witness we have with us and always will have as long as medical testimony is bought. We have always had the charlatan, the abortionist, and quacks of all kinds in our own ranks and they are not easily purged. I agree that their elimination is desirable but far beyond the scope of this discussion.

Personally, I have not tried to dodge appearance in court and have never had a prearranged fee schedule before appearing on the witness stand. I have never stipulated the fee before giving the testimony nor have I ever had the attorneys deny the bill rendered.

Dr. Tyner has given some wonderful pointers for the conduct of the radiologist on the stand. If you lose your temper, the lawyers may make your testimony seem silly. So stick to your specialty, be familiar with the case in question, stick strictly to the facts in the case, and do not allow the questioners to provoke you to testify to some silly statements in an attempt to support testimony already given. Be on your guard for the counsel's seeming familiarity with the subject. One of the pet tricks of attorneys is to study some medical literature that supports their case and then attempt to have you recognize them as authorities when their opinion opposes your own. In that case, of course, their author gave his opinion; you as an equally qualified authority do not agree with their author.

The proverbial hypothetical question is well handled by the essayist. For practically all, the answer is yes or no with qualifications. The components can then be broken down, analyzed, and answered accordingly. It is obligatory at all times that the witness clearly understand the question propounded. If it is not clear exactly what the question is, have it repeated or even explained by the interrogating counsel.

If you know your case and your subject and stick to your specialty, the truth, and nothing but the truth, the lawyers will have difficulty impeaching your testimony. If at any time the counsel becomes cross or ugly or in any way abusive, you have the privilege of appeal to the judge, and your appeal will in most instances be substantiated. Your appearance in federal court is likely to be pleasant and dignified because the federal judges will not have it otherwise.

OPHTHALMOLOGY AND OTOLARYNGOLOGY IN THE OKINAWAN CAMPAIGN

EDWARD D. McKAY, M. D.
TEMPLE, TEXAS

The period covered by this report is from April 5, 1945, when the Thirty-First Field Hospital, with which I was on detached service, was established, through June 21, 1945, when the campaign was officially ended. During this period there were 388 operative cases and 166 nonoperative.

It should be remembered under what conditions operations were performed. Located about 5,000 feet to the rear of the front lines, the hospital had a 105 mm. field artillery battery 50 feet south of the operating room, and a 90 mm. antiaircraft battery, firing artillery over the hospital 300 feet to the north. Even the Mayo stands resented the disturbance, because they would rock and sway with each salvo, so that someone had to keep one foot on the base of the stand. Being under tents throughout the campaign and in a poor location, all eight of the operating tables stood in 6 inches of water for more than forty-eight hours at one time when it rained, and even then we operated. "We" included three enlisted technicians whom I had brought with me, and after May 4, Capt. William Fosco, of New York City.

Eye patients will be considered first. Enucleations were done only in cases of complete collapse of the globe and loss of intraocular contents. As indicated in table 1, there were 42 collapsed globes, 2 of which were bilateral. Those injuries in which a laceration was severe were repaired either with scleral and corneal sutures or with conjunctival flap. An iridectomy was done in each case of prolapse iris, the decision as to enucleation being deferred until further observation at a rear eschelon station. In our location, that was Saipan and Guam for most patients.

Intraocular foreign bodies were handled in almost a routine manner. Perforating wounds of the globe all were subjected to a "scout" roentgenogram, and if an opaque object was present, it was localized. On Leyte, I had picked up a "Sweet" localizer, and here it was put to good use. Those objects which had entered the globe in the posterior segment without gross damage to the lens were re-

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moved by the posterior route if magnetic. Four naught (.0000) atraumatic chromic double armed catgut sutures were placed in the edge of the scleral incision and used for traction, care being taken not to injure the choroid. The magnet was then applied, using the Lancaster portable electric magnet and the blunt tip. The sutures were then tied, and the area around the scleral incision coagulated with a La Carrere needle and the Bovie unit. In those cases in which the foreign bodies were not magnetic, the area of scleral incision was given surface diathermy with the ball tip. In most of the cases there

TABLE 1.—*Eye Injuries Treated*

Condition Treated		No. Cases
Collapsed globe		42
Foreign bodies, intraocular localized		75
Foreign bodies, anterior chamber		3
Lashes in anterior chamber	2	
Brass	1	
Panophthalmitis		3
Laceration, cornea		28
Laceration, lids		47
Hypopyon ulcer		2
Hordeolum		16
Keratoconjunctivitis		33
Iritis		39

was hemorrhage, and visualization was not possible, though a giant ophthalmoscope was frequently helpful. Foreign bodies, lashes, and brass in the anterior chamber were removed through a Keratome incision. Frequently we would be working on an eye or elsewhere on the head, another surgeon would be working in the abdomen, and still a third on an extremity. These we termed our "multiple banged-up jobs."

The 3 cases of panophthalmitis were almost exactly alike as to injury and course. The injury was the result of blast. When night soil is burned deeply into the stroma of the cornea, it is far from easy to clean adequately. These 3 eyes were all irrigated well, but the corneae were already edematous and had been injured twelve hours or more pre-

TABLE 2.—*Outpatients*

	May 26-31, 58 patients June 1-30, 404 patients
Eye Injuries	
Conjunctivitis	
Foreign body of cornea	
Defective vision	
Extraocular paresis	
External and internal ophthalmoplegia	
Ulcer of cornea	
Hordeolum	
Detached retina	
Disseminated choroiditis, old	
Chalazion	

viously, and under pentothal anesthesia meticulously cleaned. All 3 eyes were completely opaque, sightless, and anterior chambers full of pus at the time of the first dressing twenty-four hours later. These patients, as did all patients in the hospital, received 20,000 units of penicillin, and .5 Gm. of sulfadiazine every four hours all of the time they were on the Island and until reaching the rear area hospitals, Saipan, Guam, and farther away.

About the middle of May, 1945, a Negro soldier with a small ulcer of the cornea of the right eye, came into the hospital. He stated he had gotten something in his eye the day before while driving a truck. The anterior chamber was half filled with pus. Desperate, and with the three cases of panophthalmitis in mind, I gave this boy 20,000 units of penicillin intravenously every three hours for six doses. Penicillin, atropine, and a good pressure patch were his only treatment. In twelve hours, or on his fourth intravenous penicillin injection, the anterior chamber was clear, and remained so.

Twelve of the 39 cases of iritis, those which had not responded to intravenous typhoid, intramuscular penicillin, atropine, and heat, were taken off all medication except atropine, and 20,000 units of penicillin given intravenously for six doses. Ten of the 12 cleared up entirely and were returned to duty. The other 2 were evacuated.

Table 2 shows the hospital's outpatient load with respect to eye injuries.

TABLE 3.—*Injuries Other Than to Eyes*

Ear, Nose, and Throat		
Otitis media		
Otitis externa		
Vasomotor rhinitis		
Fracture of nasal bone		
Atrophic rhinitis		
Sinusitis, maxillary irrigations		
Epistaxis		
Tonsillitis		
Pharyngitis		
Laryngitis		
Laryngeal paralysis		
Neck		
Penetrating wounds of larynx		12
Carotid artery injuries		4
Bronchial obstruction		4
Other neck injuries		23
Maxillofacial and ear		
Ear lacerations		19
Fracture mandible		27
Fracture maxilla		9
Severe lacerations of face		17
Otitis media		14
Otitis externa		23
Fragment in mastoid		1

A summary of types of injuries not involving the eye which were treated at our hospital is given in table 3.

Suturing of severe lacerations of the head and neck, 209, as noted in table 4, were part of the compound fractures of the maxilla, mandible, nose, and eyelids. In cases involving the face, minimal debridement and maximum scrubbing with soap and water was practiced. I used silk throughout, buried and in the skin. Many of these patients were in the hospital five days or longer before evacuation and (I hesitate to make this statement, but it is true) in only 1 was there any breakdown of the wound, and that was not complete.

Of the 4 common carotid injuries, 1 was a carotid-jugular aneurysm, the others carotid only. Two of these had hemiplegia and 2 did not. The patient with the aneurysm came into the hospital with hemiplegia already present. He was not operated on or touched, but sent directly by air to the aneurysm center on the mainland.

Of the penetrating wounds of the larynx and trachea, all had low tracheotomy and primary closure of the wound. No cases of mediastinitis were seen or reported, although all patients with penerating wounds of the larynx and trachea were kept in our ward

TABLE 4.—*Operative Procedures*

Enucleations (two bilateral)	42
Eviscerations	5
Removal of magnetic intraocular foreign bodies	15
Foreign bodies, nonmagnetic, not removed	36
Removal of anterior chamber foreign bodies	3
Iridectomy and conjunctival flap	35
Wiring of fractured mandibles	6
Wiring of fractured maxilla	1
Carotid ligations, common	2
Tracheotomies	20
Pharyngotomies	6
Bronchoscopies	4
Antrotomies (maxillary)	4
Suture of severe maxillofacial lacerations including ears and neck	209

for at least seven days. This is also true of the perforating injuries of the esophagus and pharynx. These patients all had a Levine tube and primary closure of the injured viscus by lateral pharyngotomy if the injury was high, or lateral exposure if lower down. The one hemisection of the larynx healed by primary intention, with a bilateral cord paralysis as a result of the injury.

I believe that the high percentage of good results was the result of prompt use of chemotherapy at the time of injury, use of penicillin routinely, and getting most of the patients repaired sooner than twelve hours after injury.

Scott and White Clinic.

ABSTRACT OF DISCUSSION

Dr. John L. Matthews, San Antonio: To those of us who have had no experience at the battle front, the conditions under which Dr. McKay served on Okinawa are impossible to visualize. Yet our limited understanding of those conditions is sufficient to make us tremendously proud of the heroic conduct of the medical soldier in battle, as exemplified by Colonel McKay and Captain Fosco. As I review Dr. McKay's paper, two points are of particular interest to me.

Of the 51 cases of intraocular foreign bodies upon whom magnet extraction was attempted, 36 demonstrated nonmagnetic bodies. In this respect, Dr. McKay's experience differs sharply from that of the surgeon in World War I, who found that the majority of metal bodies responded to the magnet. The difference has resulted primarily from the substitution of aluminum-magnesium alloys for steel in the manufacture of bombs and shells. Advances in the use of these same alloys for industrial purposes suggests that in civilian life physicians will encounter an increasing number of similar nonmagnetic intraocular bodies. To counter these undesirable side effects of metallurgical progress, improved techniques for the management of nonmagnetic bodies must be developed and learned.

As a complement to careful surgery, the role of chemotherapy demands mention. Dr. McKay's case of hypopyon cleared by the use of penicillin within twelve hours is dramatic, but of less statistical significance than his experience with 39 cases of iritis, of which only 2 patients had to be evacuated. Certainly, penicillin and the sulfonamides were powerful weapons in this war, for through them effective manpower at the front was greatly increased. Fortunately, those agents were new and were tremendously efficient. No one will doubt the wisdom of their routine administration to battle casualties. But are physicians not now prescribing them excessively? Organisms formerly highly susceptible to their action are now showing increasing immunity. It would therefore seem wise to withhold the drugs in most instances until a definite indication for their use appears.

Though Dr. McKay's battle experiences have doubtless been of great value to him, we now rejoice with him that they are over and that he may return to peaceful pursuits in Texas.

Dr. J. P. Aderhold, San Antonio: It has been the observation of those of us who have been associated with the American fighting man that one of the principal reasons his morale surpasses that of any other national is that he sincerely believes he will be adequately cared for should he be wounded. The basis for this belief is very well exemplified by the work done in the Okinawan Campaign and presented in this paper by Dr. McKay.

I agree with Dr. McKay that if the general condition of the patient permits, face wounds should be closed with drainage following cleansing and only indicated debridement, as soon as possible after injury. It is my belief that in severe facial fractures, a basilar fracture should always be considered as possibly present although it may not be demonstrated clinically or by roentgen ray. These patients are usually in a considerable amount of shock, and the soft tissues are edematous when seen. I consider it advisable to wait until the general condition has improved and stabilized and the edema has subsided before reduction is attempted.

In wounds of the face where control of hemorrhage is a problem, I believe that if an external carotid ligation will control the bleeding, one done early under local anesthesia is preferable to allowing the patient to be further shocked by oozing, bleeding, or repeated attempts to control the same by packing.

I agree with Dr. McKay as to his choice of tracheotomy, and also believe that it is far better to do a tracheotomy too early than to wish later that one had been done.

One of the frequent complications of modern warfare that will be repeatedly encountered by physicians doing otology, is deafness. Unfortunately, the early management of these cases is limited to the removal from further acoustic trauma, and the care of associated complications of blast injuries if sustained.

LONGEVITY INCREASES IN UNITED STATES

The average length of life of the people of the United States based on 1946 death rates reached nearly 67 years, almost a full year more than the corresponding figure for 1945, according to figures compiled by the National Office of Vital Statistics. Expectation of life at birth for white females is now 70.3 years and for white males, 65.1 years. For nonwhite females the expectation of life at birth is 61.0 years and for nonwhite males 57.5, but improvement among nonwhites has been steadily greater since 1900 than among whites.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, San Antonio, May 2-5, 1949. Dr. Tate Miller, Dallas, President; Dr. Harold M. Williams, 700 Guadalupe St., Austin, Secretary.

American Medical Association. Interim Session, St. Louis, November 30-December 3, 1948. Dr. R. L. Sensenich, South Bend, Ind., President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

NATIONAL AND REGIONAL

American Academy of Allergy. Dr. Will C. Sprain, New York, President; Dr. Theodore L. Squier, 424 East Wisconsin Ave., Milwaukee, Secretary.

American Academy of Dermatology and Syphilology. Dr. Clyde L. Cummer, Cleveland, President; Dr. Earl D. Osborne, 471 Delaware Ave., Buffalo, N. Y., Secretary.

American Academy of General Practice, Cincinnati, March 7-9, 1949. Dr. Paul A. Davis, Akron, Ohio, President; Dr. Mac F. Cahal, 20 N. Wacker Drive, Chicago 6, Acting Executive Secretary.

American Academy of Neurological Surgery. Dr. William S. Keith, Toronto, Canada, President; Dr. T. C. Erickson, 1300 University Ave., Madison 5, Wis., Secretary.

American Academy of Ophthalmology and Otolaryngology, Chicago, October 10-15, 1948. Dr. C. H. McCaskey, Indianapolis, President; Dr. W. L. Benedict, Mayo Clinic, Rochester, Minn., Secretary.

American Academy of Pediatrics, Atlantic City, November 20-23, 1948. Dr. John A. Toomey, Cleveland, President; Dr. C. G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association for Thoracic Surgery. Dr. Alton Ochsner, New Orleans, President; Dr. Brian Blades, George Washington University School of Medicine, Washington, D. C., Secretary.

American Association of Genito-Urinary Surgeons. Dr. C. E. Burford, St. Louis, President; Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago, Secretary.

American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, Hot Springs, Va., September 9-11, 1948. Dr. Robert D. Mussey, Rochester, Minn., President; Dr. L. A. Calkins, University of Kansas Medical Center, Kansas City, 3, Secretary.

American College of Physicians, March 28-April 1, 1949. Dr. Walter W. Palmer, New York, President; Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Secretary.

American College of Radiology. Dr. E. P. Pendergrass, Philadelphia. President; Dr. Mac F. Cahal, 20 N. Wacker Drive, Chicago 6, Secretary.

American College of Surgeons, Los Angeles, October 18-22, 1948. Dr. Arthur W. Allen, Boston, President; Dr. Paul B. Magnuson, 40 E. Erie St., Chicago 11, Secretary.

American Congress of Physical Medicine, Washington, D. C., September 7-11, 1948. Dr. H. Worley Kendell, Chicago, President; Dr. Richard Kovacs, 2 E. 88th St., New York 28, Secretary.

American Dermatological Association. Dr. J. Gardner Hopkins, New York, President; Dr. Harry R. Foerster, 208 E. Wisconsin Ave., Milwaukee, Secretary.

American Gastro-Enterological Association. Dr. Henry L. Bockus, Philadelphia, President; Dr. Dwight L. Wilbur, 655 Sutter St., San Francisco, Secretary.

American Gynecological Society. Dr. Edmund A. Schumann, Philadelphia, President; Dr. Howard Taylor, Jr., 842 Park Ave., New York 21, Secretary.

American Hospital Association, Atlantic City, September 20-23, 1948. Mr. Graham L. Davis, Battle Creek, Mich., President; Mr. George P. Bugbee, 18 E. Division St., Chicago, Executive Secretary.

American Laryngological, Rhinological and Otological Society, Chicago, April, 1949. Dr. John J. Shea, Memphis, Tenn., President; Dr. C. S. Nash, 277 Alexander St., Rochester 7, N. Y., Secretary.

American Neurological Association. Dr. George Wilson, Philadelphia, President; Dr. H. Houston Merritt, Montefiore Hospital, New York 67, Secretary.

American Ophthalmological Society. Dr. Henry C. Haden, Houston, President; Dr. W. S. Atkinson, 129 Clinton St., Watertown, N. Y., Secretary.

American Orthopedic Association. Dr. Robert I. Harris, Toronto, Canada, President; Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secretary.

American Otological Society. Dr. Marvin F. Jones, New York, President; Dr. Gordon D. Hoople, 713 E. Genesee St., Syracuse 3, N. Y., Secretary.

American Pediatric Society. Dr. Grover F. Powers, New Haven, Conn., President; Dr. Henry G. Poncher, 1819 W. Polk St., Chicago 12, Secretary.

American Proctologic Society. Dr. George H. Thiele, Kansas City, Mo., President; Dr. Vernon G. Jeurink, 1612 Tremont Pl., Denver 2, Secretary.

American Psychiatric Association. Dr. Winfred Overholser, Washington, D. C., President; Dr. Leo H. Bartemeier, General Motors Bldg., Detroit, Secretary.

American Public Health Association, Boston, November 8-12, 1948. Dr. Martha M. Eliot, Washington, D. C., President; Dr. R. M. Atwater, 1790 Broadway, New York 19, Secretary.

American Roentgen Ray Society, Chicago, September 14-18, 1948. Dr. J. B. Edwards, St. Louis, President; Dr. H. Dabney Kerr, University Hospital, Iowa City, Secretary.

American Society of Anesthesiologists, St. Louis, November 4-6, 1948. Dr. Charles F. McCuskey, Los Angeles, President; Dr. Curtiss B. Hickcox, 745 Fifth Ave., New York 22, Secretary.

American Society of Clinical Pathologists, Chicago, October 10-16, 1948. Dr. Theodore J. Curphey, Hempstead, N. Y., President; Dr. A. S. Giordano, 531 N. Main St., South Bend, Ind., Secretary.

American Surgical Association. Dr. Elliott C. Cutler, Boston, President; Dr. W. M. Firor, Johns Hopkins Hospital, Baltimore 5, Secretary.

American Urological Association. Dr. Herbert H. Howard, Boston, President; Dr. T. D. Moore, 899 Madison Ave., Memphis 3, Tenn., Secretary.

Association of American Physicians. Dr. A. H. Gordon, Montreal, President; Dr. H. M. Thomas, Jr., 1201 N. Calvert St., Baltimore 2, Secretary.

Central Neuropsychiatric Association, Kansas City, Fall, 1948. Dr. William C. Menninger, Topeka, Kan., President; Dr. Lee Eaton, Mayo Clinic, Rochester, Minn., Secretary.

International College of Surgeons, U. S. Chapter, St. Louis, November 15-20, 1948. Dr. Herbert Acuff, Knoxville, Tenn., President; Dr. Louis J. Gariepy, 16401 Grand River Ave., Detroit 27, Secretary.

National Tuberculosis Association. Dr. Herbert L. Manz, Kansas City, Mo., President; Dr. H. Stuart Willis, 1790 Broadway, New York 19, Secretary.

Radiological Society of North America. Dr. L. Henry Garland, San Francisco, President; Dr. D. S. Childs, Medical Arts Bldg., Syracuse 2, N. Y., Secretary.

Southern Medical Association, Miami, Fla., October 25-28, 1948. Dr. A. LeDoux, New Orleans, President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southern Psychiatric Association. Dr. Guy F. Witt, Dallas, President; Dr. Newdigate M. Owensby, 384 Peachtree St. N. E., Atlanta, Ga., Secretary.

Southern Surgical Association, White Sulphur Springs, December 7-9, 1948. Dr. E. P. Lehmann, Charlottesville, Va., President; Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Southwest Allergy Forum, El Paso, April 4-5, 1949. Dr. Sim Hulsey, Fort Worth, President; Dr. O. E. Egbert, First National Bank Bldg., El Paso, Secretary.

Southwestern Medical Association, El Paso, October 28-30, 1948. Dr. Leslie M. Smith, El Paso, President; Dr. Wickliffe R. Curtis, First National Bank Building, El Paso, Secretary.

Southwest Regional Cancer Conference, Fort Worth, October 12, 1948. Secretary, 209 Medical Arts Bldg., Fort Worth.

United States-Mexico Border Public Health Association, Nogales, Ariz., and Nogales, Mexico, 1949. Dr. Victor Ocampo Alonzo, Hermosillo, Mexico, President; Dr. M. F. Haralson, 314 U. S. Court House, El Paso, Secretary.

STATE

Texas Association of Obstetricians and Gynecologists, Houston, October 15-16, 1948. Dr. Warren E. Massey, Dallas, President; Dr. George Adam, 4115 Fannin, Houston, Secretary.

Texas Chapter, American Academy of General Practice. Dr. J. B. Copeland, San Antonio, President; Dr. W. P. Higgins, Jr., Medical Arts Bldg., Fort Worth, Secretary.

Texas Chapter, American College of Chest Physicians. Dr. Robert B. Homan, El Paso, President; Dr. Charles J. Koerth, Kerrville, Secretary.

Texas Club of Internists. Dr. Julian C. Barton, San Antonio, President; Dr. Charles Barrier, Medical Arts Building, Fort Worth, Secretary.

Texas Dermatological Society, October. Dr. D. T. Gandy, Houston, President; Dr. W. Harris Connor, 601 Medical Arts Bldg., Houston, Secretary.

Texas Heart Association. Dr. Walter B. Whiting, Wichita Falls, President; Dr. Merritt B. Whitten, 1421 Medical Arts Bldg., Dallas, Secretary.

Texas Hospital Association, Galveston, April 19-21, 1949. Mr. C. J. Hollingsworth, Lubbock, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association. Dr. M. J. Cooper, San Antonio, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Orthopedic Association, San Antonio, May 2, 1949. Dr. Ruth Jackson, Dallas, President; Dr. Margaret Watkins, 3629 Fairmount St., Dallas, Secretary.

Texas Pediatric Society, Dallas, October 15-16, 1948. Dr. C. B. Alexander, San Antonio, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, San Antonio, February, 1949. Dr. Austin E. Hill, San Antonio, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Executive Secretary.

Texas Radiological Society, Fort Worth, January 7-8, 1949. Dr. L. M. Garrett, Corpus Christi, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association, San Antonio, May 2, 1949. Dr. Denman C. Hucherson, Houston, President; Dr. W. F. Parsons, First National Bank Bldg., Fort Worth, Secretary.

Texas Rheumatism Association. Dr. Howard C. Coggeshall, Dallas, President; Dr. J. Paul Thomas, Medical Arts Bldg., Dallas, Secretary.

Texas Society for Mental Hygiene, Dallas, March 3-5, 1949. Dr. Ozro T. Woods, Dallas, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Anesthesiologists. Dr. J. C. Youngblood, Houston, President; Dr. H. C. Slocum, 928 Strand, Galveston, Secretary.

Texas Society of Gastroenterologists and Proctologists, San Antonio, May 2, 1949. Dr. Alvin Baldwin, Dallas, President; Dr. Carl Giesecke, 1602 Nix Professional Bldg., San Antonio, Secretary.

Texas Society of Ophthalmology and Otolaryngology, Fort Worth, December 3-4, 1948. Dr. S. N. Key, Sr., Austin, President; Dr. John L. Matthews, 929 Nix Professional Bldg., San Antonio, Secretary.

Texas Society of Pathologists, Dallas, January 30, 1949. Dr. W. W. Coulter, Sr., Houston, President; Dr. C. T. Ashworth, 604 Medical Arts Bldg., Fort Worth, Secretary.

Texas State Urological Society, Temple. Dr. Michael K. O'Heeron, Houston, President; Dr. E. O. Bradfield, Scott and White Clinic, Temple, Secretary.

Texas Surgical Society, Fort Worth, October 4-5, 1948. Dr. G. W. N. Eggers, Galveston, President; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association, San Angelo, September 24-25, 1948. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

DISTRICT

Second District Society, Lubbock, October 5-6, 1948. Dr. R. B. G. Cowper, Big Spring, President; Dr. Carl Uthoff, Big Spring, Secretary.

Third District Society, Lubbock, October 5-6, 1948. Dr. C. E. High, Pampa, President; Dr. Kenneth Flamm, Amarillo, Secretary.

Fourth District Society, Ballinger, October 12, 1948. Dr. J. C. Young, Coleman, President; Dr. Charles F. Bailey, Ballinger, Secretary.

Fifth and Sixth Districts Society, Corpus Christi, July, 1949. Dr. D. R. Knapp, Kerrville, President; Dr. Charles Tennison, Nix Professional Building, San Antonio, Secretary.

Seventh District Society. Dr. M. I. Brown, Austin, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts Society. Dr. T. O. Woolley, Orange, President; Dr. James Greenwood, Jr., 518 Medical Arts Bldg., Houston 2, Secretary.

Eleventh District Society, Tyler, October 21, 1948. Dr. Harvey Bell, Palestine, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth District Society. Dr. R. R. White, Temple, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco, Secretary.

Thirteenth District Society. Dr. Fred Harrell, Olney, President; Dr. S. W. Wilson, Medical Arts Bldg., Fort Worth, Secretary.

Fourteenth District Society, Ennis, January, 1949. Dr. W. I. Southerland, Sherman, President; Dr. John Bagwell, Medical Arts Building, Dallas, Secretary.

Fifteenth District Society, Daingerfield, Fall, 1948. Dr. W. S. Terry, Jefferson, President; Dr. James Harris, Marshall, Secretary.

CLINICS

Dallas Southern Clinical Society, Dallas, March 14-17, 1949. Miss Thelma J. Webb, Medical Arts Bldg., Dallas 1. Executive Secretary.

International Post-Graduate Medical Assembly of Southwest Texas, San Antonio, January 25-27, 1949. Dr. John J. Hinchey, 643 Moore Bldg., San Antonio 5, Secretary.

Oklahoma City Clinical Society Conference, Oklahoma City, October 25-28. Muriel R. Waller, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secretary.

Post Graduate Medical Assembly of South Texas, Houston, December 7-9, 1948. Dr. E. Trowbridge Wolf, 229 Medical Arts Bldg., Houston, Secretary.

Wichita County Fall Clinical Conference, Wichita Falls, October 20, 1948. Dr. Charles H. Brown, Wichita Falls, Program Chairman.

MEDICAL EXAMINERS OFFICE MOVES

Effective September 1, the office of the State Board of Medical Examiners will be moved from Waco to the Medical Arts Building, Fort Worth. Dr. M. H. Crabb, Fort Worth, has been elected secretary-treasurer of the board, succeeding Dr. H. F. Connally, Waco, who died in July, and the office will be under his supervision.

Dr. L. H. Denman, Lufkin, has been appointed to fill the vacancy on the board caused by Dr. Connally's death. His term will expire in 1953.

Dr. Crabb has announced that the board will meet at the Blackstone Hotel, Fort Worth, November 4-6 to hold examinations for physicians wishing to qualify for a Texas license.

SILIFORM AMPULS CONTAMINATED

The Food and Drug Administration has urged physicians, hospitals, and druggists to return all stocks of Siliform Ampuls to the manufacturer, the Heilkraft Medical Company, Boston, since samples of the drug have been found to contain contaminants. The injection drug, which is claimed by the manufacturer to relieve patients suffering with rheumatism, should be sterile, but inspection by the Food and Drug Administration showed that the siliform had been manufactured without sterilization and samples were found to contain living organisms. Distribution of the drug has covered the United States, and stocks dating back to 1946 have been found on the market.

BOARD OF OBSTETRICS AND GYNECOLOGY

A number of changes in requirements and regulations were made by the American Board of Obstetrics and Gynecology when it held its annual meeting in Washington, D. C., May 16-22. New bulletins which give details of all new regulations are available for distribution upon application to the board, 1015 Highland Building, Pittsburgh 6. The board certified 231 candidates.

The next scheduled examination (Part I) will be held February 4, 1949. Applications may be made until November 1.

"EVERYDAY HEALTH" ON RADIO SERIES

A series of thirteen fifteen-minute transcriptions for broadcasting on the general subject of "Everyday Health Problems" has recently been received by the central office of the State Medical Association from the Health Education Bureau of the American Medical Association and is available for distribution to Texas radio stations upon request.

The series includes the following topics: reducing, skin health, arthritis, vacations, accidents, undulant fever, liver disease, the common cold, old age, drug addiction, alcoholism, migraine, and allergies.

DRUGS AND JOURNALS REQUESTED

The Medical and Surgical Relief Committee, a charitable organization of doctors and laymen formed seven years ago to send medical, surgical, and dental supplies and literature to foreign countries where need is greatest, is currently asking for medical supplies of all kinds. Letters of appeal from various countries are constantly being received.

Contributions can be made in two ways: money gift or a gift-in-kind. Among the items most urgently needed are anesthetics, antiseptics, aspirin, aspirin combinations, germicides, liver and iron capsules, microscopes, penicillin, sedatives, standard medications for various conditions, surgeons' gloves, vitamins, and recent medical, surgical, and dental books and journals.

Drugs are repackaged by a registered pharmacist at the New York office; instruments are put in first-class condition; and publications are sorted and repaired. Arrangements are made for shipping packages without cost.

Checks should be made payable to James G. Blaine, treasurer. Checks and gifts-in-kind should be mailed to Medical and Surgical Relief Committee, Inc., 420

Lexington Avenue, New York 17. Dr. T. G. Blocker, Jr., University of Texas School of Medicine, Galveston, is the consultant to the relief committee in this area.

Every visit to the clinic or the doctor's office, every visit by the public health nurse, is health education, for the visit provides the most powerful type of learning, namely, experience. If the experience is not satisfying, there will be a tendency to avoid seeking health and medical care the next time that the individual or a member of his family needs it.—Mayhew Derryberry, Ph.D., Pub. Health Rep., Nov. 14, 1947.

The estimated expenditures per death during the year 1940 for research in preventive medicine in certain diseases were as follows: poliomyelitis $500, infectious diseases $4, cancer $2, cardiac diseases $0.17.—Col. Wesley C. Cox, USA (MC), in Symposium on Military Epidemiology, Cambridge, Mass., May 26, 1948.

If the head of a family is stricken with tuberculosis the family's resources are exhausted in about one year. After that society takes care of the victim and his dependent children, and after his death gives his widow a pension. The expenditure in taking care of the results of the disease far exceeds the money spent for its eradication.—James H. Hutton, M. D., Illinois M. J., April, 1947.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 700 Guadalupe Street, Austin, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library during July:

Reprints received, 613.
Journals received, 201.
Books received, 27.

Diagnosis in Gynecology, Ricci, and *Recent Advances in Surgery*, Edwards, from Blakiston Company, Philadelphia.

Clinical Laboratory Methods and Diagnosis, 3 volumes, Gradwehl; *Outline of Physiology*, Amberson and others; *Diseases Affecting the Vulva*, Hunt; *Practice of Allergy*, Vaughan and Black; *Principles Governing Eye Operating Room Procedures*, Clevenger; and *Handbook of Ophthalmology*, Goar, from C. V. Mosby, St. Louis.

Intracranial Tumors, Bailey, from Charles C. Thomas Publishers, Springfield, Ill.

Oral Vaccines, Thomson and others; *Handbook of Practical Bacteriology*, Mackie and McCartney; *Midwifery*, White (editor) and others; *Standard Radiographic Positions*, Davies and Isenburg; and *Human Nutrition*, Mottram, from Williams and Wilkins Company, Baltimore.

A Treatise on Obstetric Labor, Torpin, from Augusta Obstetric and Gynecology Book Company, Augusta, Ga.

Arterial Hypertension, Ayman; *Bright's Disease*, Christian; and *Subacute Bacterial Endocarditis*, Libman and Friedberg, from Oxford University Press, New York.

Diseases of the Ear, Nose, and Throat, Morrison, from D. Appleton-Century Company, New York.

Twentieth Century Speech and Voice Correction, Froeschels (editor), from Philosophical Library, New York.

Transactions of the American Therapeutic Society, 1945, Pottenger (editor), from the Society, New York.

The American College of Surgeons' Year Book, 1947-49, 2 copies, American College of Surgeons, from R. R. Donnelly and Sons, Chicago.

Eating for Health, Lewis, from MacMillan Company, New York.

The Rehabilitation of the Patient, Elledge, from J. B. Lippincott, Philadelphia.

SUMMARY OF SERVICE

Local users, 52.	Borrowers by mail, 36.
Items consulted, 782.	Packages mailed, 41.
Items taken out, 236.	Items mailed, 474.

Total number of items consulted and loaned, 1,492.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 700 Guadalupe Street, Austin, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Film Library during July:

Accent on Use (National Foundation for Infantile Paralysis)—Public Meeting, Dublin.

Anemia, Erythroblastic (Mead Johnson)—Coffey Clinic, Fort Worth.

Appendicitis in Childhood (Mead Johnson)—F. A. Orgain Memorial Hospital and Bastrop Clinic, Bastrop, and Duff Pittard Clinic, Anson.

Cholecystectomy (Mead Johnson)—F. A. Orgain Memorial Hospital and Bastrop Clinic, Bastrop, and Duff Pittard Clinic, Anson.

In Daily Battle (National Foundation for Infantile Paralysis)—Public Meeting, Dublin.

Eyes, Your Children's (British Information Services)—Well Baby Clinic, Brownsville.

Gastrectomy, Safer (Billie Burke Productions)—Drs. Hyslop and Hyslop, Del Rio.

Goiter Surgery (Mead Johnson)—Drs. Hyslop and Hyslop, Del Rio.

Hysterectomy (Mead Johnson)—Drs. Hyslop and Hyslop, Del Rio, and F. A. Orgain Memorial Hospital and Bastrop Clinic, Bastrop.

Immunization Against Infectious Diseases (Lederle Laboratories)—Texas Wesleyan College, Fort Worth.

Infantile Paralysis, Orthopedic Treatment of (Mead Johnson)—Scott and White School of Nursing, Temple.

Let My People Live (Texas Tuberculosis Association)—Boy Scouts, Fort Worth.

Magic Bullets (U. S. Public Health Service)—Organic Chemistry Class, Texas Wesleyan College, Fort Worth.

Mastoid Operation (Louis Daily)—Harris College of Nursing, Fort Worth.

New Horizons (National Foundation for Infantile Paralysis)—Public Meeting, Dublin.

Poliomyelitis, Sister Kenny Method of Treatment (Dr. Herbert Hipps)—Scott and White School of Nursing, Temple.

Primary Dysmenorrhea (Searle Laboratories)—Coffey Clinic, Fort Worth.

Time Is Life (American Cancer Society)—W. N. Jones Hospital, Sherman.

Traitor Within (American Cancer Society)—Dr. P. M. Nesbit, Arlington, and State Welfare Organization, Sherman.

Varicose Veins and Their Complications (Becton, Dickinson & Co.)—Dr. P. M. Nesbit, Arlington.

Treatment of Varicose Veins (Searle Laboratories)—Dr. P. M. Nesbit, Arlington.

You Are the Switchman (American Cancer Society)—State Welfare Organization, Sherman.

BOOK REVIEWS

[1]**Pharmacology, Therapeutics and Prescription Writing.** By Walter Arthur Bastedo, Ph.D., Ph.M. (Hon.), M.D., Sc.D. (Hon.), F.A.C.P. Fifth edition. Cloth, 840 pages, illustrated. Price, $8.50. Philadelphia and London, W. B. Saunders Company, 1947.

The remarkable progress that has taken place since the first edition (1913) of Dr. Bastedo's earlier publication has caused the author to make a strenuous effort to keep abreast of the times. Few books have been revised so often within thirty-four years. Two world wars have contributed greatly to the rapid changes in the manufacture and uses of remedial agents and, in addition, have greatly stimulated research in every branch of medicine. No pharmacologist is better qualified to cover this subject than the author, whose many years of teaching, together with the high positions he has held in connection with the different revisions of the Pharmacopeia, has given him a store of knowledge few men possess. He has tried to pass this information on to others and has so arranged the latest edition that it is a complete and concise volume.

The passing from Latin to English prescriptions has largely been brought about by the availability of excellent pharmaceutical preparations, thus rendering Latin obsolete. Yet sufficient stress is given to Latin terms that almost any physician can cull the information desired in the sixty-four pages given to prescription writing.

The drugs and remedies are listed in a logical manner as to sources, constituents, various preparations, dosage, strength, method of action, manner of prescribing, and administration. Cautions are given concerning more potent drugs, with the contraindications. Toxicity and allergy are considered, and treatment is listed for such occurrences. Many of the latest preparations are considered, such as radioactive iodine, folic acid, rutin, streptomycin, and thiouracil. Dr. Bastedo quotes his authorities by name as he discusses the value attached to these latest remedial agents.

This edition contains 840 pages of information on pharmacology and therapeutics, with a minimum number of graphs and a classification of drugs arranged in a sequence that will enable either a practitioner, student, or teacher to find the information he wants within the shortest time. The fifth edition of Bastedo should be on the desk of every practitioner and specialist.

[2]**Diagnostic Bacteriology.** By Isabelle G. Schaub, A.B., and M. Kathleen Foley, A. B. Third edition. Cloth, 532 pages, of which 148 are blank for notes. Price, $4.50. St. Louis, C. V. Mosby Company, 1947.

This is a good reference book for technicians in clinical laboratories. Most bacteriologic techniques and procedures used in clinical bacteriological laboratories are described and discussed satisfactorily. Chapter III, which deals with the formula for culture media, staining technique, reagents, and tests, is accurate, concise, and well arranged. An excellent feature of this chapter is the citing of references to the journals in which the methods were originally described in detail.

The book is printed on one side of each page, leaving the opposite side blank for notes and remarks. This volume is not suitable as a textbook, but is useful as a reference technique book in bacteriology and serology.

[3]**Endocrine Therapy in General Practice.** By E. L. Sevringhaus, M.D., F.A.C.P. Sixth edition. Cloth, 264 illustrated pages. Price, $4. Chicago, The Year Book Publishers, Inc., 1947.

The author has presented in this manual the fundamentals of endocrinology, correlating the function, diagnosis, and treatment of the endocrinopathies in a clear, practical manner. He gives a discussion of the biologic significance of hormones, a review of systematic endocrinology, and a consideration of posterior pituitary hormones in the first three chapters. The remainder of the book is a treatise on the hormones of the anterior pituitary group, and the final chapters are devoted to the subjects of "Endocrinopathies in Children and Adolescents" and to "Obesity."

While the book is mainly on therapy, each topic is discussed according to function, diagnosis, and treatment, with an adequate application of the newer concepts of hormone therapy. The illustrations are fairly numerous and good.

Although this manual was probably intended primarily for the student and general practitioner, anyone interested in the subject of endocrinology can profit by reading it.

[4]**Review of Occupational Medicine and Industrial Hygiene.** By Rutherford T. Johnstone, A.B., M.D. Cloth, 604 pages, illustrated. Price, $10. St. Louis, C. V. Mosby Company, 1948.

This book excellently combines the clinical aspects of occupational diseases with appraisal, control, and description of industrial processes. It is more than a mere revision and improvement of "Occupational Diseases," which the author published in 1941. The outstanding new material includes trade names of more commonly used commercial chemicals, information on recently studied chlorinated hydrocarbons, recently developed synthetic chemicals, a chapter on oxygen therapy, and a chapter on the toxicity and potential hazards involved with the use of DDT, 2-4D (weed killer), and thioglycolates (used in cold wave permanents). Throughout the entire book numerous illustrative case histories are cited. Another improvement over the 1941 book is the inclusion of many chemical formulas and a review of certain fundamental organic molecular structures.

The author has drawn richly from his personal experiences. The book should appeal and be valuable to medical students and practicing physicians whose occupational disease or industrial health medical courses were meager and who desire to supplement their education through current refresher data, as well as to plant engineers, safety experts, and industrial hygienists.

[5]**The Pathology of Nutritional Diseases.** By Richard H. Follis, Jr., M.D. Cloth, 236 pages, illus-

[1]Reviewed by R. H. Needham, M. D., Fort Worth.
[2]Reviewed by A. Packchanian, M. D., Galveston.
[3]Reviewed by William H. Teague, M. D., Fort Worth.
[4]Reviewed by William S. Brumage, M. D., Austin.
[5]Reviewed by J. E. Robinson, M. D., Temple.

trated. Price, $6.75. Springfield, Ill., Charles C. Thomas Publisher, 1947.

This volume is unique in that the author has approached the problem of nutrition primarily from the point of view of pathology, and secondarily noting physiologic, biochemical, and clinical relationships. Detailed morphologic changes in Mammalia resulting from a deficiency of each of the forty-odd essential nutrients, elements, amino acids, vitamins, and fatty acids, are discussed. The studies presented deal primarily with the pathologic changes occurring in experimental animals as a result of specific deficiencies. The results of specific deficiencies in men are included when known. The metabolic and biochemical relationships between the various nutrients are discussed briefly. Of particular interest are the sections on scurvy and rickets, which are based on the author's personal investigation.

Those concerned with the investigation of problems concerning nutrition should find the volume helpful, as it is a good review of the experimental work in the medical literature. The author has consolidated much scattered information and constantly raises questions requiring further investigation. The fact that knowledge concerning nutrition and deficiencies is incomplete is constantly pointed out.

[6]**Operative Gynecology.** By Harry Sturgeon Crossen, M.D., and Robert James Crossen, M.D. Sixth edition. Cloth, 979 pages, illustrated. Price, $15. St. Louis, C. V. Mosby Company, 1948.

Six editions of this work attest its usefulness. It is written in a clear and concise style. It abounds in good illustrations which are basic in a text on operative gynecology. Its principal defect is the inclusion of a few obsolete procedures from the earlier editions. This is especially true in the sections on uterine retro-displacements and prolapse.

The section on malignancy of the cervix is especially well done. A thorough discussion of clinical features including histologic grading and stage determination is presented. Radiotherapy is simply and clearly discussed omitting detailed radiophysics. However, the authors do not enter the "radium versus radical surgery" controversy, although a fairly satisfactory technique for radical surgery is given.

Essentially all commonly seen gynecologic disorders are taken up in well organized chapters. Their diagnosis and management are discussed in a thoroughly practical manner. As a further aid to the gynecologic surgeon, concomitant conditions of closely related organ systems are considered in detail. The chapters concerning the intestinal and urinary tracts are especially useful.

The section on anesthesia could well be strengthened. Infiltration anesthesia is given undue prominence, and balanced anesthesia is not discussed at all. Curare is barely mentioned.

A practical chapter on medico-legal problems concludes the volume. The important points considered are (1) consent to operation, (2) foreign bodies left in the abdomen, and (3) persistence of symptoms after operation.

In summary, the book is complete, well written, and clearly illustrated. It is a valuable adjunct to the practice of good conservative surgery in gynecology.

[7]**Coronary Heart Disease.** By A. Carlton Ernstene, M. D., Chief of the Section on Cardiovascular Disease, Cleveland Clinic, Cleveland, Ohio. Cloth, 100 pages. Price, $2.50. Springfield, Ill., Charles C. Thomas, Publishers, 1948.

This delightful 100-page monograph of American lectures on circulation brings to us, in fairly condensed form, eight chapters full of essential elements making up pathology, symptoms, signs, differential diagnosis, complications, prognosis, and treatment of various aspects of cardiac disease, most of which have their basis in disease of the coronary arteries.

Any clinician or general practitioner who sees heart disease will do well to read this little book from cover to cover, since it contains material which is of benefit in every day practice.

The chapter headed "Risk of Anesthesia and Surgical Operation in Patients with Coronary Heart Disease" should be quite comforting to those surgeons contemplating operations on this group of patients. Detailed methods of approach and treatment in such cases are adequately covered.

[8]**A Manual of Pharmacology.** By Torald Sollmann, M. D. Cloth, seventh edition, 995 pages. Price, $11.50. Philadelphia and London, W. B. Saunders Company, 1948.

This is the seventh edition of a monumental work on the current knowledge and conceptions of drug actions. It includes the newer concepts of chemotherapy that have developed since the previous edition in 1942. This edition also, for the first time, contains the latest information on antithyroid drugs, anticonvulsants, antihistamine agents, anticholinesterases, folic acid, standardized curare, reliable digitoxin, nitrogen, mustards, and so forth.

The format of this volume has been improved by using two columns to the page. This facilitates the search for information. As in previous editions, ordinary and small type are used. Ordinary type presents material that all searchers should use, and small type is for those striving for more detailed information.

If any criticism could be made of this edition, it is that of the indexing of some of the newer drugs. For instance, in the body of the book under antimalarial drugs there is a section on chloroquine, but in the index this drug is not listed, whereas the less well known term "Aralen" is.

All in all, this is one of the most comprehensive works on pharmacology, and should be in every library for reference purposes.

[9]**Ulcer.** By Donald Cook, B. A., M. D. Cloth, 187 pages, illustrated. Price, $2.50. Chicago, Medical Center Foundation and Fund, 1947.

This small volume contains a well arranged and comprehensive review of the literature bearing upon the cause and treatment of gastroduodenal ulcer. The author first gives due consideration to theories concerning the etiology as follows: chemical, infectious, constitutional, gastritis, deficiency, endocrine, vascular, intragastric mucosal irritant, traumatic, neurogenic, deranged motility, anomalies, metabolic disturbances, allergy, dietary factors, and occupational theories. He then expounds his own theory: "There is an ulcer-bearing area of the stomach and of the duodenum which comprises that portion of these organs which may be pinched, rubbed, or pressed between the posterior surface of the liver and the ventral surface of the spine and prevertebral structures. These portions include the lesser curvature and an elliptical area on each of the adjacent ventral and dorsal walls of the stomach and approximately the first two and one half inches of the duodenum."

Under "Limbo of the Ridiculous," Dr. Cook sounds a timely warning against vagotomy in general, and supradiaphragmatic section of both vagus nerves in particular.

The book is well arranged, easy to read, and packed with wisdom born of experience. Without doubt it is the most valuable contribution to the subject that has appeared in recent times.

[6]Reviewed by Terrell Speed, M. D., Temple.
[7]Reviewed by J. F. McVeigh, M. D., Fort Worth.
[8]Reviewed by Edward P. Leeper, M. D., Dallas.
[9]Reviewed by W. B. Russ, M. D., San Antonio.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

National Meetings to be held soon include the following:

American Association of Blood Banks, Buffalo, N. Y., August 26-28.—Further information may be secured from Miss Marjorie Saunders, Secretary, 3301 Junius Street, Dallas 1.

Mississippi Valley Medical Editors' Association, Springfield, Ill., September 29.—All ethical physicians and those interested in medical writing are invited to attend a course in medical writing by Dr. Morris Fishbein, Chicago, editor of *The Journal of the American Medical Association*, in the afternoon, and a dinner followed by addresses in the evening. The meeting will be held during the annual convention of the Mississippi Valley Medical Society. Details are available from Dr. Harold Swanberg, Secretary, W.C.U. Building, Quincy, Ill.

"Southwest Medicine," official monthly publication of the Southwestern Medical Association and El Paso County Medical Society, is being revived with Dr. Delphin von Briesen, El Paso, as editor. Drs. Leslie M. Smith, Louis W. Breck, M. P. Spearman, and Branch Craige comprise the editorial board. The first issue appeared in July.

Public Health Service Celebrates.—The one hundred fiftieth anniversary of the founding of the United States Public Health Service was observed on July 16. In Texas, the Marine Hospital in Galveston and the U. S. Public Health Service Hospital in Fort Worth as units of the federal service were especially concerned with the anniversary. At the Fort Worth hospital Dr. R. B. Holt, medical officer in charge; Captain T. W. McDaniel, Jr., MC, USN; and Dr. R. T. Hewitt, senior surgeon, spoke briefly at a public program of the history of the Public Health Service, its work with the Navy, and its part in the national program of mental health. Excerpts from Dr. Holt's talk appear in the "Current Editorial Comment" section of this JOURNAL, page 285.

The Veterans Administration Hospital at Legion observed its twenty-fifth anniversary July 1 with special programs, parties, and entertainment for bed patients; recognition of long-time employees; and displays in downtown show windows of the handiwork of patients in manual arts classes and other medical rehabilitation, according to the Kerrville *Mountain Sun*. The American Legion in 1920 laid the foundations for a hospital which in its early days was operated by the state of Texas. It was then taken over by the federal government and in 1923 was placed under the jurisdiction of the Veterans Bureau, forerunner of the Veterans Administration.

A Medical Center in Tyler is being planned in conjunction with erection of a new county hospital, bids for which will be requested by the end of the year, reports the Tyler *Courier-Times-Telegraph*. The East Texas Hospital Association, comprised of business and professional men and women of Smith County, has donated a 10-acre building site for the hospital from a 35-acre tract in southeast Tyler. The remainder of the tract will be developed on a nonprofit basis to include a medical arts office building, nurses' school and home, clinics, space for future expansion of the hospital, an apartment hotel, a motel, a theater, and retail stores. The new $1,500,000 hospital will be only one and one-half blocks from Mother Frances Hospital and three blocks from Tyler Junior College, at which student nurses will take part of their training.

The Hendrick Memorial Hospital Summer Clinic was held in Abilene July 15 with more than one hundred West Texas physicians in attendance, according to the Abilene *Reporter-News*. The fifth annual clinic sponsored by the Hendrick Hospital featured talks by Dr. Joe Kopecky and Dr. Asher McComb, both of San Antonio, and by Abilene physicians. Visitors were guests of Hendrick Hospital at luncheon in the hospital cafeteria and of Abilene physicians at a dinner-dance in the Abilene Country Club. Dr. Tate Miller, Dallas, President of the State Medical Association and speaker at the dinner, stressed the need of continuing to fight the socialization of medicine and to work for passage of a basic science bill in the Texas Legislature. Wives of visiting physicians were entertained during the day at the Abilene Club.

The Over Twenty Club has been organized in Dallas for physicians who have been in practice there for more than twenty years. The club will hold monthly supper meetings, informs the Dallas *News*, and programs will be entertaining instead of scientific.

The M. D. Anderson Hospital for Cancer Research, Houston, has recently secured the services of Dr. Horace Marvin, formerly assistant professor of anatomy and of medicine in charge of endocrinology at the University of Arkansas School of Medicine, as head of the department of biology, according to the Houston *Post*.

Dr. Gordon W. Howe has been awarded a Rosalie B. Hite postdoctoral fellowship for research at the M. D. Anderson Hospital, reports the Houston *Chronicle*. The fellowship is the first to be awarded for work at the Anderson Hospital and is financed through funds provided by the late Rosalie B. Hite to the University of Texas for research into the cause, prevention, treatment, and cure of cancer.

The University of Texas Medical Branch, Galveston, has announced the appointment of three new staff members, according to the Galveston *Tribune*. Dr. Jack Neal, Salt Lake City, and Dr. M. J. Cuen, El Paso, have been appointed directors of the recently established Laboratory of Industrial Hygiene, and Dr. Henry Hammer, chief of radiology service at the Vienna General Hospital prior to 1938 and more recently a member of the staff of Bellevue Hospital, New York, has been appointed assistant professor of radiology.

Dr. Jack R. Ewalt, director of the Galveston State Psychopathic Hospital and professor of neuropsychiatry at the Medical Branch, will serve as consultant on neuropsychiatry and hospital administration for a commission to reorganize the executive branch of the federal government, the Galveston *Tribune* informs. The bipartisan committee authorized by the Eightieth Congress is made of both congressmen and civilians headed by Herbert Hoover. Dr. Ewalt as a member of the federal medical service division will study the medical functions of the Veterans Administration, U. S. Public Health Service, Army, Navy, and other agencies of the executive department.

The Life Insurance Medical Research Foundation has granted $6,300 to Dr. George Emerson, head of the pharmacology laboratories of the Medical Branch, to continue studies on carnosine and its relation to shock treatment, the Galveston *Tribune* states.

Dr. Wilbur A. Selle, professor of physiology at the Medical Branch, has accepted an appointment for the summer in the Health Physics Division of the Oak Ridge Laboratory. Dr. Selle plans to study the use of radioactive isotopes in relation to allergic conditions.

Dr. Truman G. Blocker, Jr., professor of plastic and maxillo-facial surgery at the Medical Branch,

has been elected to membership in the American Surgical Society, informs the Galveston *Tribune*. Dr. Blocker is the third Texas physician currently holding membership in the organization, which is limited to 200.

Dr. Chester N. Frazier, professor of dermatology at the Medical Branch, has been appointed Edward Wigglesworth professor of dermatology at Harvard Medical School and chief consultant in dermatology to the Massachusetts General Hospital, Boston, with a research grant from the Rockefeller Foundation. He will continue to supervise special research and residency training in Galveston.

Dr. Eric Ogden, professor of physiology, will be a guest speaker at the University College Hospital, London, in August and will also attend the Glasgow meeting of the Physiology Society.

PERSONALS

Dr. Charles M. Hendricks, El Paso, chairman of the Committee on Tuberculosis of the State Medical Association and past president of the American College of Chest Physicians, received the annual award for outstanding achievement in diseases of the chest at the meeting of the American College of Chest Physicians in Chicago on June 19.

Dr. Tinsley R. Harrison, Dallas, became president of the American Heart Association in June, according to *The Journal of the American Medical Association*.

Dr. C. J. Koerth, formerly superintendent of the Kerrville State Sanatorium, has assumed the position of tuberculosis director for San Antonio.

Dr. Harry A. Tubbs, Fredericksburg, was honored by the Fredericksburg Junior Chamber of Commerce in July, being named the outstanding young man of the past quarter and receiving an award in recognition of his widespread civic work, the Fredericksburg *Standard* reports.

Dr. W. F. Shipp, Lorena, was given a surprise party on his seventy-ninth birthday July 17 by the townspeople of Lorena, whom he has served for more than fifty years, reports the Waco *Tribune-Herald*. Dr. Shipp was eulogized by a number of the several hundred persons who gathered in tribute to him, and he was presented with a variety of gifts, among them an engraved wrist watch.

Dr. C. F. Culver, formerly on the staff of the Veterans Administration Hospital at Legion, died July 5 in Kerrville.

Dr. Jo C. Alexander, Dallas, has returned from a meeting of the International College of Surgeons in Rome, Italy, informs the Dallas *News*.

MARRIAGES

Dr. Robert P. McDonald, Fort Worth, married Miss Dorothy Cuistion in Rochester, Minn., June 26.

Dr. Joe Henry Roberts, Irving, married Miss Jeanne Caldwell, Italy, June 30.

BIRTHS

To *Dr. and Mrs. Val C. Baird*, Houston, a daughter, Mary Lou, April 27.

To *Dr. and Mrs. W. B. West*, Fort Worth, a son, Walter Billie, June 20.

To *Dr. and Mrs. John E. Skogland*, Houston, a daughter, Bonnie Jean, May 23.

To *Dr. and Mrs. Alfred F. Knoll*, Houston, a son, Charles Whitney, May 13.

SOCIETY NEWS

Bell County Society

June 2, 1948

(Reported by J. G. Rodarte, Secretary)

Eresiphake Method of Cataract Extraction (motion picture with brief discussion)—E. R. Veirs, Temple.
Primary Hypertensive Vascular Disease—T. J. Coleman, Temple.

The scientific program outlined was presented when Bell County Medical Society met June 2 in Temple with forty-one members in attendance. G. V. Brindley, Temple, gave a brief report of the proceedings of the House of Delegates at the annual session of the State Medical Association. W. N. Powell, Temple, gave a report for a committee which had investigated the blood donor program in Bell County, indicating that the committee does not approve the establishment of a Red Cross blood bank in the county. Report of the public health committee was read. A letter from J. E. Bauman, Temple, thanking the society for its support in the Texas cancer drive was read.

Application for membership by three physicians was approved.

Lamar County Society

July 1, 1948

(Reported by Thomas E. Hunt, Jr., Secretary)

Neoplasms of the Mouth (lantern slides)—Earl P. Williams, D. D. S., Dallas.

Lamar County Medical Society met jointly with the First District Dental Society in Paris on July 1. Thirty-eight doctors were present to hear Earl P. Williams, D.D.S., Dallas, discuss neoplasms of the mouth. Dr. Williams described methods of giving anesthesia to dental patients. He pointed out the symptoms of cancer of the tongue, emphasized the importance of biopsy, and showed slides demonstrating various types of cancer of the mouth and lips.

N. L. Barker and George S. Woodfin were unanimously elected to membership upon application.

Lubbock-Crosby Counties Society

June 1, 1948

(Reported by Roy G. Loveless, Secretary)

Cyclopropane and Curare Anesthesia—Olan Key, Lubbock.

Twenty-two members and one guest were present for the June 1 meeting of the Lubbock-Crosby Counties Medical Society in Lubbock. Considerable business was brought before the group.

Discussion of the proposed drafting of physicians, dentists, and veterinarians under the age of 45 ended in passage of a motion by Allen T. Stewart that the society write its congressmen, opposing the drafting of physicians and proposing that physicians be procured by other physicians as they were in World War II.

Information concerning the Caprock Medical Society, which is establishing a cooperative hospital, was presented by R. C. Douglas. Representatives of the Caprock group had met with some of the officers of the Lubbock-Crosby Counties Medical Society, and it appeared that the hospital would operate according to the principles suggested by the State Medical Association.

It was pointed out that an act of Congress would be required to convert army fields to tuberculosis hospital use, as had been proposed. Upon motion by A. G. Barsh, the society voted to write Mr. Philip Overton, Austin, State Medical Association attorney, inquiring whether or not it would be worth while to carry on plans for such hospitals.

Dr. Barsh, reporting for the cancer committee, suggested that perhaps the society should train its own members in cancer detection rather than depend on cancer detection clinics, pointing out that interest among laymen in cancer has been created in such proportion by American Cancer Society publicity that the society might need to take steps to make cancer detection more readily available.

Announcement was made of the appointment of a public relations committee consisting of James Hall, Glen Kahler, and Mina D. Watkins.

Olan Key presented a paper in which he pointed out the good results obtainable by using a combination of cyclopropane as a general anesthesia and curare to produce muscular quietness and relaxation.

July 6, 1948

(Reported by Roy G. Loveless, Secretary)

Modern Aspect of Cardiac Surgery—J. W. Duckett, Dallas.

Lubbock-Crosby Counties Medical Society members, meeting July 6 in Lubbock, were urged by J. W. Duckett to be careful in making early diagnosis of cardiac lesions amenable to surgery.

Various communications were read, among them a letter from Mr. Philip Overton, Austin, attorney for the State Medical Association, expressing doubt that a tuberculosis hospital for the Lubbock area could be secured at this time. Upon motion by E. L. Hunt, seconded by J. T. Krueger, the society discharged the tuberculosis committee from further activity toward securing such a sanatorium.

James Hall, chairman, listed fifteen complaints against the medical profession which had been elicited in a poll of laymen conducted by the public relations committee. Dr. Hall discussed the merits and demerits of the complaints.

Upon motion by W. H. Gordon, seconded by M. M. Ewing, the society voted to buy a lantern slide projector and screen for use of the county society and at the district meeting. The president appointed Drs. Gordon and Ewing to investigate the availability and price of such equipment.

M. R. Snodgrass and D. R. Rhoades, Crosbyton, were elected to membership upon application.

Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Terrell-Zavala Counties Medical Society

June 18, 1948

Large Bowel Surgery—Carl Kunath, San Angelo, and J. W. Nixon, Asher McComb, and V. C. Tucker, San Antonio.

A series of papers on large bowel surgery by visiting physicians was presented for the Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Terrell-Zavala Counties Medical Society when it met June 18 in Del Rio. In addition to the essayists, seventeen members and two guests were present.

Pecos-Jeff Davis-Presidio-Brewster Counties Society

July 11, 1948

(Reported by W. E. Lockhart, Secretary)

Intestinal Obstruction (lantern slides)—Asher McComb, San Antonio.
Folvite (motion picture)—Courtesy of Lederle Laboratories.
Parkinsonism (motion picture)—Courtesy of Lederle Laboratories.

The scientific program outlined was presented when nine members of Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society met July 11 in Fort Stockton. Families of the members and Mr. Bert Kincaid, Fort Stockton rancher, and his wife were also guests at a barbecue given by Dr. and Mrs. C. E. Oswalt prior to the meeting.

A letter from George W. Cox, Austin, State Health Officer, proposing formation of a four county health unit was read and discussed favorably. Action was deferred pending study and report by a committee appointed by the president and consisting of M. V. Hill, chairman, J. W. O'Donnell, and W. E. Lockhart, all of Alpine.

Letters concerning a proposed mass chest x-ray survey, already approved by the society, were read.

Upon motion by J. H. Blackwell, seconded by Dr. Hill, the society unanimously voted to send a letter of tribute to the family of Dr. Louis A. Lavanture, Marfa, recently deceased.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Society

June 2, 1948

(Reported by M. W. Nobles, Secretary)

Shock—Carl Moyer, Dallas.

Ten members and eight guests were present to hear a paper on shock by Carl Moyer, Dallas, read before the June 2 meeting of Randall-Deaf Smith-Parmer-Castro-Oldham Counties Medical Society in Dimmitt.

R. C. Stokes, Friona, made a brief report of the recent meeting of the State Medical Association.

D. K. Robison, Claude, was elected to honorary membership in the society.

Refreshments were served following the program.

July 7, 1948

(Reported by M. W. Nobles, Secretary)

Diagnosis of Acute Abdominal Disorders—Robert A. Neblett, Canyon.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Medical Society met July 7 in Canyon with seven members and three visitors present. The paper named was presented.

Tom Green-Eight County Society

June 30, 1948

Public Relations Aspects of the Medical Profession—Mr. Philip Overton, Austin.

Public relations and the medical profession was discussed by Mr. Philip Overton, Austin, attorney for the State Medical Association, at a special meeting of the Tom Green-Eight County Medical Society in San Angelo on June 30. Members of the auxiliary were guests at the meeting.

Webb-Zapata-Jim Hogg Counties Society

July 6, 1948

(Reported by M. Valls, Secretary)

Webb-Zapata-Jim Hogg Counties Medical Society met July 6 in Laredo with the vice-president, G. E. Penny, presiding. A letter from the Boys Club of Laredo requesting assistance from the society was tabled for consideration at a later meeting. S. H. Graham, Jr., Laredo, was unanimously accepted as a member upon transfer from the Kerr-Kendall-Gillespie-Bandera Counties Medical Society.

M. L. Fuller, newly appointed director of the Laredo-Webb County Health Unit, was welcomed by Dr. Penny and spoke to the society.

Wichita County Society

July 16, 1948

Wichita County Medical Society honored George W. Cox, Austin, State Health Officer, with a barbecue at the Kindel Paulk farm, Wichita Falls, on July 16. Dr. Cox was in Wichita Falls inspecting the health and sanitation work carried on by his department. Special guests at the barbecue were Wichitans who were active in the local clean-up campaign for health and in support of the sale of bonds for an addition to the Wichita General Hospital.

Williamson County Society

July 13, 1948

William M. Gambrell and David Wade, both of Austin, were speakers at a meeting of Williamson County Medical Society held July 13 at the Johns Ranch near Hutto. Society members, their wives, and several out-of-county visitors were guests at a barbecue supper given by the Johns Clinic.

Fifth and Sixth Districts Society

July 9-10, 1948

(Reported by Charles W. Tennison, Secretary)

July 9

Address of Welcome—Robert Sigler, President, Nueces County Medical Society, Corpus Christi.
Response—Kleberg Eckhardt, President, Fifth and Sixth Districts Medical Society, Corpus Christi.
Address—Tate Miller, Dallas, President, State Medical Association.
Diagnosis and Treatment of Acute Poliomyelitis—Clifford G. Grulee, Jr., University of Texas Medical Branch, Galveston.
Psychosomatic Fantasies—Coyne Campbell, University of Oklahoma School of Medicine, Oklahoma City.

Luncheon and Round-Table Discussion.
Allergic Children and Their Problems As Seen in Everyday Practice—Ralph Bowen, Baylor University College of Medicine, Houston.
End Results in 428 Fenestration Operations—LaVerne B. Spake, University of Kansas Medical School, Kansas City.
Differentiation and Management of Various Types of Circulatory Failures—Tinsley R. Harrison, Southwestern Medical College, Dallas.

July 10

Biliary Tract Surgery—Robert Moore, University of Texas Medical Branch, Galveston.
Interpretation of Pain in the Chest—Tinsley R. Harrison.
Rationalism in Regard to Gynecologic Operations—Willard R. Cooke, University of Texas Medical Branch, Galveston.
Business Meeting.
Luncheon and Round-Table Discussion.

The program outlined above was presented when the Fifth and Sixth Districts Medical Society met in Corpus Christi, July 9-10. The 192 physicians registered elected D. R. Knapp, Kerrville, as president; L. W. Feller, Fredericksburg, vice-president; and Charles W. Tennison, San Antonio, secretary-treasurer. It was decided to meet next in July, 1949, in Corpus Christi.

A dinner-dance, golf, and a fishing trip to Aransas Pass were provided for entertainment of visiting physicians and their wives.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. S. M. Hill, Dallas; President-Elect, Mrs. Joseph B. Foster, Houston; First Vice-President (Organization), Mrs. O. W. Robinson, Paris; Second Vice-President (Physical Examination), Mrs. Robert F. Thompson, El Paso; Third Vice-President (Hygeia), Mrs. J. C. Terrell, Stephenville; Fourth Vice-President (Program), Mrs. Edward W. Coyle, San Antonio; Corresponding Secretary, Mrs. Cecil O. Patterson, Dallas; Recording Secretary, Mrs. R. E. Clark, Memphis; Treasurer, Mrs. V. M. Longmire, Temple; Publicity Secretary, Mrs. H. S. Renshaw, Fort Worth; Parliamentarian, Mrs. J. C. Sharp, Corpus Christi.

AUXILIARY NEWS

Smith County Auxiliary held its final meeting of the year July 7 in Tyler at the home of Mrs. Glynne Brown. Mrs. J. J. Faust was cohostess. Preceding a coffee, the Auxiliary decided in business session that all money left after Auxiliary expenses had been paid would go toward furnishing a room in the new Smith County Hospital. A report of the year's work was read by Mrs. C. C. McDonald, president.

The auxiliary entertained members of the Smith County Medical Society at a picnic July 16.

Tom Green-Eight County Auxiliary met in the home of Mrs. James N. White, San Angelo, on June 29. Mrs. W. B. Burner presided over a business session. Refreshments were served to sixteen members.

Nueces County Auxiliary was host to members of the Fifth and Sixth Districts Auxiliary, which held its business meeting in Corpus Christi July 9-10 in conjunction with the District Medical Society meeting. An address by Mrs. S. M. Hill, Dallas, president of the State Auxiliary, highlighted the meeting. Special emphasis was given in her talk to the recruitment of nurses and the promotion of good health through programs on cancer, tuberculosis, and inoculation against contagious diseases. She urged as the primary objectives of medical auxiliaries the cultivation of friendly relations and mutual understanding between doctors and the public, and the self-education of members of auxiliaries in medical legislation to fit them better for the continuous fight against socialized medicine and compulsory health insurance. Mrs. Hill also pointed out the need for medical auxiliaries to adjust their activities to the needs of their communities.

Mrs. C. B. Stewart, Corpus Christi, Nueces County Auxiliary president, gave the welcoming address, and Mrs. Thomas W. Edwards, Corpus Christi, council woman for the Sixth District, who conducted the meeting, responded. The social calendar included a coffee in honor of Mrs. Hill at the home of Mrs. Sterling B. Martin, with Mesdames M. J. Perkins, C. P. Jasperson, A. J. Ashmore, and L. W. O. Janssen in charge of arrangements, and a dinner-dance at the Dragon Grill for doctors and their wives. In addition there were a golf tournament and planned fishing trips.—Mrs. Foy H. Moody, Press Reporter.

DEATHS

Dr. Collet Eugene Harrington, Dallas, Texas, died June 25, 1948, of heart disease.

Son of Dr. and Mrs. M. V. Harrington, Dr. Harrington was born January 12, 1877, in White County, Arkansas. He attended the public schools of Whitesborough, Ark., the Kentucky School of Medicine, Louisville, and the College of Physicians and Surgeons, St. Louis, being graduated from the latter institution in 1907. He began practice at Dike, Hopkins County, Texas, moving to Dallas in 1929 and to Sulphur Bluff in 1937. Dr. Harrington returned to Dallas in 1939 to join the staff of the city emergency hospital. He was subsequently made superintendent of the police emergency health department and was on the staff of the County Health Department.

During most of his professional career Dr. Harrington was a member of the State Medical Association and American Medical Association, first

DR. C. E. HARRINGTON

through Hopkins County Medical Society, then through Hopkins-Franklin Counties Medical Society, and in 1948 through Dallas County Medical Society. He was a member of the Christian Church and of the Masonic Order.

Survivors include Dr. Harrington's wife, the former Miss Ruby McFall, whom he married April 8, 1908, in Hopkins County; one son, C. E. Harrington, Jr., Paris, France; one daughter, Mrs. Robert L. Staring, Dallas; one brother, B. L. Harrington, Weslaco; and one sister, Mrs. Blanche Wood, Dallas.

Dr. Bernard A. Jansing, Westphalia, Falls County, Texas, died June 17, 1948, of heart disease in a Marlin hospital.

Born in Flatonia on October 8, 1879, Dr. Jansing was educated in the Westphalia school and the College of Physicians and Surgeons, St. Louis, from which he received his medical degree in 1908. From 1908 until 1913 he practiced in Grimes County. He then returned to Westphalia, where he was in practice until his death. He also operated a drug store.

Continuously since 1915 Dr. Jansing was a member of the Falls County Medical Society, the State Medical Association, and the American Medical Association. He was a member of the Catholic Church.

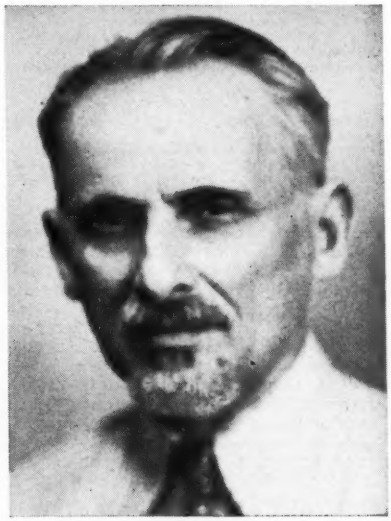
DR. B. A. JANSING

Dr. Jansing married Miss Katie Bernsen in 1906. He is survived by his wife; three daughters, Mesdames Joe L. Boeselt, San Antonio; Joe O. Blackwell, III, Dallas; and W. L. Beach, Cherry Point, N. C.; two sons, Harold R. Jansing, San Antonio, and Gerald J. Jansing, Westphalia; three sisters, Sister M. Rodriguez, San Antonio; Sister M. Sabina, Houston; and Miss E. M. Jansing, Galveston; and three brothers, Andrew, Herman, and George Jansing, all of Norman, Okla.

Dr. Emanuel Toomin, Beaumont, Texas, died April 15, 1948, in a local hospital.

A native of Russia, Dr. Toomin was born April 11, 1883, the son of Mr. and Mrs. Joshua Toomin. He was educated at an agricultural school in Woodbine, N. J., and the College of Physicians and Surgeons, Baltimore, from which he was graduated in 1910. Dr. Toomin practiced for a short time in Cameron, Texas, and then for seven years in Waco, where he was city physician for two years. He moved to Fort Worth, where he was in practice for ten years, and then to Chicago, where he was superintendent successively of Washington Park and North Chicago Hospitals. After eleven years he returned to Texas, practicing for about a year and a half in Slaton and Sundown before going to Beaumont in 1943.

For various periods between 1911 and 1929 Dr. Toomin was a member of the State Medical Association and American Medical Association through the Milam, McLennan, and Tarrant Counties Medical Societies. Since 1943 he had held membership through Jefferson County Medical Society. He formerly was a member of the Knights of Pythias, the Elks Lodge, and the Lions Club, and was a member of the American Legion, having served with the Medical Reserve during World War I. He was also a member of the Beaumont Club.



DR. EMANUEL TOOMIN

Dr. Toomin married Miss Jennie Roddy in Cameron on September 18, 1910. He is survived by his wife; one daughter, Mrs. R. A. Rosene, Chicago; and three sons, Hershel Toomin, New York; David Toomin, Houston; and Leonard A. Toomin, serving with the Army at Biloxi, Miss.

Dr. Charles Elam Scull, San Antonio, Texas, former chairman of the Board of Councilors of the State

DR. C. E. SCULL

Medical Association, died June 6, 1948, of coronary occlusion.

Son of J. Gambia and Jennie (Elam) Scull, Dr. Scull was born July 18, 1888, in LaVernia, Wilson County, Texas. He received his academic education

at Southwestern University, Georgetown, and his medical degree from the University of Texas Medical Branch, Galveston, from which he was graduated in 1910. He served an internship at Santa Rosa Hospital, San Antonio, and remained in San Antonio to practice.

Continuously throughout his professional career Dr. Scull was a member of the Bexar County Medical Society, the State Medical Association, and the American Medical Association. He served in numerous offices in the county society, including the presidency, and was councilor of the Fifth District from 1937 until 1947, being successively secretary and chairman of the Board of Councilors of the State Medical Association. He was a fellow of the American College of Surgeons and a member of the Texas Surgical Society and the Texas Railway and Traumatic Surgical Association. He was division surgeon for the Southern Pacific Railway and surgeon for the Pullman Company. During World War I he was a member of the Army Medical Corps, holding the commission of lieutenant-colonel upon his return from overseas. He was a member of the Methodist Church, the Masonic Lodge of LaVernia, and Alzafar Shrine.

Dr. Scull is survived by his wife, the former Miss Alice Warren, whom he married December 23, 1911; two sons, C. E. Scull, Jr., LaVernia, and Dr. Jack Scull, San Antonio; and one daughter, Miss Patricia Scull, San Antonio.

Dr. Marvin Price Stone, Dallas, Texas, died June 22, 1948, of arteriosclerosis and hypertension complicated by pneumonia.

Dr. Stone, the son of the Rev. and Mrs. Benjamin Franklin Stone, was born September 12, 1878, in

DR. MARVIN P. STONE

Columbia, Tenn., but his family moved to Texas in 1894. He attended high school in Brownwood and Daniel Baker College there. He attended the University of Texas Medical Branch in Galveston and was graduated in medicine from the University of Pennsylvania, Philadelphia, in 1905. After serving a one year internship and a one year residency at the German Hospital, Philadelphia, Dr. Stone began his practice in Dallas. He had been active until January, 1947, when he retired because of failing health.

A member of the State Medical Association and American Medical Association through Dallas County Medical Society since 1908, Dr. Stone was elected to honorary membership in the state association in 1947.

Surviving Dr. Stone are his wife, the former Mrs. Genevieve Scott Moss of San Antonio, whom he married December 7, 1931, in Madill, Okla.; one sister, Mrs. T. Clyde Smith, Brownwood; and one brother, Tom Stone, Brady.

Dr. Byron Webster Wood, Port Arthur, Texas, died May 28, 1948, of acute coronary thrombosis.

Born November 25, 1882, in Cerulean Springs, Ky., Dr. Wood was the son of Mr. and Mrs. O. G. Wood. He attended school in Hopkinsville, Ky., and the Bowling Green Preparatory College, Bowling Green, Ky. His medical education was secured at the Hahnemann Medical College, Chicago, and the Eclectic Medical College, Cincinnati, from which he was graduated in 1907. He later did postgraduate work at Hot Springs, Ark., and at Charity Hospital and Tulane University, New Orleans. Dr. Wood practiced at Denison, Gladewater, and Gilmer before moving in 1922 to Port Arthur. Formerly specializing in urology, Dr. Wood in 1941 discontinued private practice to become city health officer and later director of the health unit.

From 1915 through 1930 and again from 1941 until the time of his death Dr. Wood was a member of the

DR. BYRON W. WOOD

State Medical Association and the American Medical Association, first through Grayson County Medical Society, then through Upshur County Medical Society, and more recently through Jefferson County Medical Society. He was a member of the Crippled Children's Society, Tuberculosis Society, Welfare Board, Chamber of Commerce, Y.M.C.A., Port Arthur Roof Club, Masonic Order, Elks Lodge, and Methodist Temple. He served as mayor of Gilmer while a resident of that city.

Surviving Dr. Wood are his wife, the former Miss Vera Sloan of Cincinnati, whom he married in New Orleans in 1910, and two sisters, Mrs. Nora E. Williamson and Mrs. Alice Underwood, both of Hopkinsville, Ky.

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